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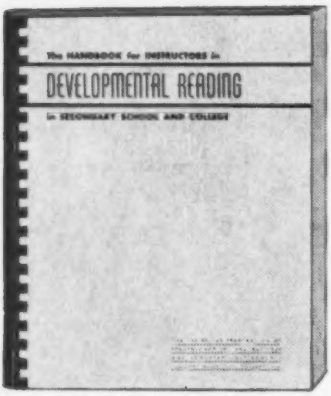

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Recent Research in Reading: Implications for College and Adult Programs

DANIEL G. SAYLES

This is the initial article in a series of annual summaries of the significant professional publications on college and adult reading. Readers are urged to notify the author or the editors of the JOURNAL OF DEVELOPMENTAL READING of materials appropriate for consideration in future articles.

THIS REPORT is based on a search through approximately thirty professional journals and periodicals which regularly or occasionally publish reports of research in reading and related processes. Although most of the articles cited were published within the last year and a half, reference has been made to a few earlier reports wherever it seemed appropriate. No attempt has been made to present an exhaustive report of all research in the area, in part because some studies were judged to be repetitious of earlier research or to be lacking in practical significance, and also because even certain papers of great significance seemed to be related primarily to problems of beginning reading. Furthermore, as the title of this paper implies, the reviewer has gone a step or two beyond a mere reporting of results of research in order to draw inferences from the studies cited, and in some instances has suggested ways in which these reports may be used to redirect our thinking about some of the problems involved in teaching college and adult reading improvement classes.

Reading Ability as a Predictor of Academic Achievement

Researchers have for some time concerned themselves with the value of reading test scores as predictors of academic success in college, and the contradictory findings they have reported suggest that the question is one for which we have,

Daniel G. Sayles is Assistant Chief of the Reading Improvement Services of the University of Michigan. *In its original form, this paper was presented at the annual conference of the North Central Reading Association for Colleges and Adults at Purdue University, October 21, 1960.*

as yet, no definite answer. For example, among recent publications dealing with this problem, those of Hill,[8] Jackson,[10] Havens,[7] and Robertson and Harrison[21] report moderate to high correlations between reading ability and grade-point average, while McQueen,[14] Preston,[19] and Murphy and Davis[17] have found low or negative correlations between the same variables. Vineyard and Bailey[26] found a moderately high positive relationship between reading test scores and one-year grade-point average when intelligence and listening ability were not controlled, but when these two variables were held constant they obtained a partial correlation coefficient near zero. It would seem that some variables have not been adequately controlled in most of these studies, and this may explain the conflicting findings. For example, we may ask whether such tests as the Survey Section of the *Diagnostic Reading Tests,* used in several of these investigations, has a high enough ceiling to discriminate adequately between superior and average readers at the college level. There is also some question concerning the reliability of *both* the reading tests *and* the criterion of college success used in all of these studies. And perhaps more importantly, does not the relatively high relationship between intelligence and reading ability suggest that variations in admission policies at the different schools involved in the above studies may strongly influence the reported findings? That is, if only very bright applicants are accepted, won't the correlation between intelligence and achievement diminish? If so, we might expect to find that reading test scores are good predictors of academic achievement in schools where the student body exhibits a rather wide range of intellectual ability, whereas in more highly selective colleges the difference between success and failure may be more strongly influenced by such factors as study skill and motivation.

The Effectiveness of College and Adult Reading Improvement Programs

It is not surprising to find that those who conduct reading improvement classes are concerned with the extent to which their programs influence their students' reading and study

behavior after they have been released from the stimulating atmosphere of the reading lab. Almost all developmental reading classes seem to produce substantial gains in reading rate, with little or no loss in comprehension—and occasionally increases in comprehension scores are reported as well. But how persistent are these gains? Do rate gains achieved with relatively simple narrative materials transfer to technical material? And does instruction in effective study procedures actually help to improve academic performance?

In general the answers to these questions are encouraging. Schwartz,[24] investigating the training program of the US Navy preflight school, found that rate gains made with training on *non-technical* materials transferred well. There was a 92% increase in rate of reading for *technical* materials, with a decrease of 5% in comprehension. These percentages indicate the difference between initial and post-test scores, the latter obtained twelve weeks after the termination of the course. Entwisle[3] reviewed reports of progress for twenty-two reading improvement and study skills courses, and concluded: 1) that such courses are usually followed by significant gains, particularly when student enrollment is voluntary; 2) that observed gains tend to persist; 3) and that academic performance is improved, the modal gain being about half a letter grade. With regard to grade-point average, it might be well to remember that students set their own grade-point goals. Some of the studies reported by Entwisle indicated that greatest gains in letter grades were achieved by students on academic probation. Possibly the relatively small modal gain of half a letter grade is influenced by performance of students who are satisfied with their academic standing, and who thus use their newly-developed skills simply to reduce the amount of study time necessary to maintain that standing.

Less happy results have been found in some adult programs. Both Murdick,[16] reporting on a program for executives, and Kenworthy,[12] who worked with industrial chemists, physicists, and engineers, observed excellent gains during the course itself, but their data indicate that these gains were not permanent. The apparently greater persistence of gains made in college programs may be explained by the fact that students

find themselves in an environment in which they are constantly confronted with the opportunity—even the necessity—to practice newly-learned skills. Non-college adults, however, may find the end of the special class situation and the return to old surroundings conducive to a return to old habits as well. If the findings of Kenworthy and Murdick may be regarded as indicative of the state of affairs in adult programs in general, it appears that some modification of these programs should be considered in order to increase the probability of longer retention of gains achieved. Murdick suggests that the answer to this problem may be found in improved instructional techniques, in over-training, or in provision for refresher courses.

One further comment concerning reported gains or losses in comprehension. Almost all such gains or losses are reported to be statistically significant. Since these same gains or losses seem to be of a magnitude of about four to six percentage points, however, and thus a difference of no more than one or two items on most tests, one may question whether these comprehension changes are educationally significant, regardless of statistical significance.

Affective and Attitudinal Factors in Reading Ability

Interest in emotions as they contribute to or result from reading difficulty among college students is evidenced in several recent studies. Chansky and Bregman[1] observed an inverse relationship between high psychasthenia score on the MMPI and improvement in reading skills course, and concluded that the student with a low psychasthenia score (one relatively free from anxiety) was most likely to show substantial increments in reading test scores. This finding is congruent with earlier reports of Smith and Wood,[23] who used a different inventory to measure anxiety.

Raygor, Vance, and Adcock[20] have reported the results of initial attempts to develop an inventory based on students' self-descriptive statements concerning feelings and attitudes related to reading skill. They found that responses of reading clinic cases differed from responses of non-reading clinic cases in both content and emotional tone. Perhaps of even greater

interest is the observation that statements on the inventory which are primarily emotional or attitudinal in content predict measured reading ability as well as do statements dealing essentially with reading skill, and that the inventory as a whole predicts reading ability about as well as intelligence tests do.

Englander[2] has devised a similar inventory of attitudes related to reading and study skill, taking of examinations, and use of leisure time. He found not only that good and deficient readers differed significantly in their responses to items on the inventory, but also that certain positive changes in affect could be discerned among deficient readers after they had completed a reading improvement course.

The above studies provide additional experimental evidence for the long-suspected relationship between affect and reading ability. And, while neither of the new inventories mentioned above can as yet be regarded as refined diagnostic instruments, the continuing attempts to measure and to deal with affective variables in reading promise to enlarge our understanding of the total reading process, and to assist in the development of more effective diagnostic and instructional procedures.

Diagnostic and Screening Procedures

During the past year reports of several other promising diagnostic and screening instruments and procedures have been published. Halfter and Douglass[6] have devised a reading test for students entering a collegiate school of business. All items on the test were derived from content materials in the field of commerce, the intent being to measure the students' general competence in skills peculiar to this field. Although the predictive validity of the initial version of this test failed to satisfy the authors' expectations, inclusion of the test in the total test battery used with incoming freshmen increased the predictive value of the battery.

Moe and Nania,[15] concerned over the apparent lack of rate flexibility among able junior high school students, devised a rather informal flexibility index by subtracting the measured reading rate for difficult materials from the rate recorded for

easy materials. The median flexibility index for twelve able pupils at the beginning of a developmental reading class was 39. At the end of the class, which consisted primarily of rate practice, the learning of a modified SQ3R procedure, and extensive experience with materials of varying difficulty, the median flexibility index had risen to 213. Follow-up testing three months later revealed some loss, but scores reportedly were still far superior to those obtained during initial testing. The N involved in this study is rather small, the population highly selected, and statements concerning retention of gains are not supported with scores or figures of any kind. The study seems significant, however, not only because it suggests a rather simple way of measuring rate flexibility, but also because it indicates that appropriate instructional techniques may lead to improvement of rate flexibility as well as of rate *per se*.

Perry,[18] in his faculty report describing the activities of the Harvard student Bureau of Study Counsel, discusses a screening technique the importance of which is to be found in its originality rather than in its statistical rigor. Entering freshmen are confronted with an essay question concerning the foundations of English self-government, along with two answers to the question. The first answer contains an impressive array of dates, battles, names, and edicts, but fails to identify and interpret the more important trends related to the question. The second answer avoids chronology, names, and other details almost entirely, but deals with the main ideas involved in the question in a direct and comprehensive manner. These two answers have been "graded" by a member of the history department as C- and B-plus respectively. The students are asked to select the "best" answer. The first time this task was attempted by fifteen hundred Harvard and Radcliffe freshmen, about a third of them selected the "wrong" answer, and thus, according to Perry, demonstrated that they were heading toward the wrong goals. It was to these students that the Bureau of Study Counsel turned its attention, its goal being that of attempting to help them to make academic reading a matter of judgment rather than ritual. Those of us who are accustomed to screening tests which have been

subjected to rigorous item analysis and validation procedures may look askance at such "sloppy" screening methods. On the other hand, we might do well to consider just how effectively many of our well-standardized instruments actually "get at" the important variables involved in reading skill and academic achievement, and to make room for techniques such as this one in our bag of diagnostic devices—at least on a probationary basis.

Eye Movements and Reading Skill

The conviction that faulty eye movements are a causal factor in reading deficiency is a notion that does not die easily, in spite of the growing body of evidence indicating that direct training of eye movements with tachistoscopic and other devices has little or no demonstrable effect on measured reading performance.[9, 13, 25] That this notion has proved to be so persistent is perhaps fortunate, for several of Gilbert's recent eye-movement studies[4, 5] have attacked the question in a unique and productive manner. In one of these studies he has concerned himself with the consistently low relationship reported between speed of visual perception of isolated phrases and speed of reading. Working on the assumption that slow readers can perceive briefly-exposed phrases by reading the after-image on a screen, he measured the perceptual speed of 64 college students under two different conditions. During one session, two-word phrases were exposed on a screen for 1/24 second, and several seconds elapsed before the next phrase was presented. In this situation about 80% of the responses were correct. The next testing, however, involved exposing a nonsense word on the screen immediately after the exposure of the two-word phrase. In this instance less than 4% of the responses were correct. Gilbert concludes that the "processing time" necessary for accurate perception of such phrases is longer than 1/24 second, even for fast readers, and that the appearance of an interfering stimulus immediately after such a brief exposure of a short phrase renders the task of perceiving the phrase nearly impossible. Using the same procedure in another phase of the study, Gilbert found that there was, indeed, a significant difference between fast and

slow readers in the amount of time necessary for "processing" visual stimuli. When the presentation of interfering stimuli made it impossible to read the after-image on the screen, he discovered that the fastest readers in the group perceived the phrases more accurately at 3/24 second than the slowest readers perceived them with an exposure twice as long. He also found a correlation of about .60 between the percentage of correct perceptions and rate of comprehension on a reading test, and concluded that some students require a longer time than their classmates in order to process visual stimuli.

This conclusion suggested that the functional efficiency of the central nervous system strongly influences reading rate, but it also raised the question of the extent to which the functional efficiency of the eyes conditioned the activity of the central nervous system. In order to investigate this problem Gilbert arranged a situation in which his subjects could read eight-word sentences with and without saccadic movements. He found that speed and accuracy of perception for both fast and slow readers was about 50% better *without* than it was *with* saccadic movements, but even under these conditions the superiority of the faster readers was marked. It appeared that slow readers required a longer interval of time to stabilize their fixations to a point of maximum efficiency than was necessary for fast readers.

Gilbert's studies are of great importance not only because of his original approach to the problem of eye movements and reading, but also because his findings suggest that our tendency to view reading improvement primarily as a matter of building new habits is not entirely justified. It would appear that there are basic physiological differences between many very slow readers and those who are average or fast readers. The difficulty in controlling eye movements reported by Gilbert may, according to evidence presented by Smith,[22] be a result of calcium deficiency, a condition related to parathyroid dysfunction. If such is the case, medical therapy may provide assistance in dealing with some of our most stubborn problems. Until the possibility of such treatment becomes an actuality, however, we must search for ways to help those with perceptual problems to compensate for their difficulty. Perhaps one of the

reasons certain pacing devices are so helpful for some slow readers is that the straight line of the moving shutter or band of light enables the reader to track along a line of print more accurately, thus reducing fixation time.

It is interesting that the question of how to teach comprehension, one of the knottiest problems in the field, is so meagerly represented in the published research in reading. The use of certain techniques derived from Robinson's SQ3R procedure is frequently reported, and these techniques often appear to be helpful. However, the problem of devising a systematic method which will teach students with poor comprehension skills how to select, to learn, and to remember significant details in the reading materials they encounter has yet to be completely solved. A new avenue of research in this area was suggested by a study reported by Keislar[11] at the 1960 meeting of the American Educational Research Association. Keislar attempted to shape a learning set in forty sixth and seventh graders. Each of the students was presented with twenty-two paragraphs of pseudo-historical material containing two types of information: 1) a date, a name, and a place, and 2) three reasons for this event. One half of the students were tested, immediately after each paragraph was exposed, on the date, name, and place. The other students were tested on the reasons for the event. Correct answers were immediately reinforced. After a twenty-third paragraph was presented, both groups were asked questions on *both* kinds of information. On this final test each group exceeded the performance of the other on questions concerning information of the type for which it had previously been tested. Keislar concluded that different learning sets were shaped for these two groups of pupils as a result of reinforcing them for learning different kinds of information from the passages presented. If this conclusion is sound, isn't it possible that we might be able to condition desired learning sets in high school and college students so that they become more sensitive to, and thus pay closer attention to, those kinds of information we wish them to learn? The many recent publications describing teaching

machines and programmed materials suggest that it may not be too difficult to construct programs which would be successful in achieving this objective. The possibility of developing such techniques and materials certainly seems worthy of further research, research which could considerably augment our present armamentarium of instructional devices and procedures.

It is interesting to note how many of the researches discussed above deal with problems which heretofore have been either unrecognized or beyond our understanding. Keislar's study related to the shaping of set for learning is a good example of this. Gilbert's eye-movement studies provide encouraging evidence that it is also possible to look at old problems in new ways.

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Advanced Reading Program—Taft High School

ELIZABETH A. BRUECKMAN

THE ADVANCED READING PROGRAM was initiated at Taft High School in February, 1960; from its original simple objectives, it has developed into a more comprehensive course than was anticipated in the early days of the experiment. It is now an established part of the program, which, we hope, will be a vital experience for those who participate.

The objective in establishing the program was to investigate the possibilities of a course with a two-fold purpose: (1) to provide senior students with advanced reading and listening skills essential to a college career and (2) to reduce the drop-out rate among freshmen—apart from those enrolled in the established remedial program—by equipping them with skills that increase the possibility of success in the content areas. Those objectives soon expanded to include juniors in basic English classes. We were thus able not only to judge the relative merits of such courses on three grade levels, but to observe the appeal this experience had to both accelerated and normal groups of students.

The senior program is an intensive reading laboratory designed to introduce a critical approach to reading with such specific goals as those incorporated in the Science Research laboratories and in the numerous texts at hand:

1. Analysis and evaluation of the purpose, development, content (fact or opinion), and conclusions of the author
2. Recognition of the relationships in situations and events
3. Interpretation of facts
4. Awareness of implications
5. Generalization from data given
6. Application of ideas and principles to other areas of experience

In addition, some attention is given to the basic principles of

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logic in order to facilitate recognition of valid and spurious arguments in both school and home experiences. Increased speed is one of the prime objectives. Both students and faculty are aware of the handicap of slow pace in scholarship screening tests such as College Board Examinations and the National Merit program. Various speed-up tools are therefore employed —tachistoscope, mechanical and electrical pacers, interval timer, and our most recent acquisition, the Perceptoscope. While not neglecting the critical aspects of reading, the junior program places more emphasis on increasing rate. Greater use is therefore made of the mechanical aids. In the freshman year, on the other hand, intensive reading skills are of major importance in the limited time devoted to the reading course.

To initiate and conclude the program, various standardized tests have been utilized. Since vocabulary, comprehension, and rate are the factors in over-all reading proficiency, the following have been selected for pretests and finals, as well as for mid-term diagnosis of persisting weaknesses: (1) *Cooperative Reading Test,* 2A and 2B, Educational Testing Service (college level forms 1A and 1B) are within the scope of the most advanced seniors at the close of the term; (2) STEP *Reading Test,* Level B, Educational Testing Service; (3) *Diagnostic Reading Test,* Survey Section, Science Research Associates. In general, these tests in several forms cover grades seven through thirteen and can be used as desired. Because of the special features of the senior course, four other tests have a place in the program: (1) G. Bernard Baldwin, *Inductive Reasoning Test,* Educational Test Bureau, Minneapolis, Minnesota; (2) James I. Brown and G. Robert Carlsen, *Listening Comprehension Test,* World Book Company; (3) Irvin C. Poley, *Precis Test,* Public School Publishing Company; (4) Goodwin Watson and Edward M. Glaser, *Critical Thinking Appraisal,* World Book Company.

Materials and Methods: Senior

The basic material for the comprehension exercises in the senior class is the *Reading Laboratory, College Preparatory Edition,* by Don H. Parker, Science Research Associates, a concentrated course on a multi-level plan, which allows each student full speed ahead to his potential. The "Starting Level

Guide" contains two selections, the scores from which determine the placement. The range of the laboratory is eighth through fourteenth grade, distinguished by color of card, rather than by posted grade level. The students are told only that the objective is to complete the TAN cards (grade twelve) and that they have two additional levels for "expansion." The goal is 90% or better for approximately half the cards on the lower level. If this grade is maintained, the student automatically advances to the next level. As the difficulty increases, the number required also increases. Special problems are decided by conference with the instructor. Record books are self-scored, and progress graphs are filled in with colored pencils corresponding to the level at which the student is working. The "technicolor" procedure is as much a motivation as the interesting and timely subject matter. "Nothing succeeds like success," especially when demonstrated so vividly.

Three major skills are involved in the use of the laboratory. Power cards, twenty on each level, permit each student to advance independently, while furnishing ample material for a class of thirty or more. The cards—a treasure trove—cover such subjects as science, literature, art, history, economics, philosophy, and sports. The students are urged to select a variety of topics to increase their ability in as many areas as possible. They note the type of question that is posed in each field so that they can transfer immediately this critical approach to the daily preparation of their other studies. Above all, stress is placed on the particular technique which Dr. Parker designates by the formula SQ3R (Survey, Question, Read, Review, Recite) and upon a careful noting of errors to determine the proper line of reasoning.

Rate cards on equivalent color levels are introduced as soon as the power techniques have become familiar. These cards require both reading and comprehension checks within a three-minute span. For this purpose the interval timer makes the exercise quite lively with one student acting as "time-master."

Listening skills are developed one day a week by scripts read by the instructor. Eventually the class progresses to note-taking skills with some discussion of what constitutes effective

notes. The formula becomes TQLR (Tune in, Question, Listen, Review).

The aspect of speed takes, perhaps, the greatest effort and persistence, since the natural tendency is to slow down in the effort to achieve a perfect score. On the basis of the pretest, certain days are assigned to each student for pacer practice according to his relative need—two days for the slower, one day for the more consistently rapid reader. He keeps a special notebook for scores and progress graphs.

Of the numerous texts available on various levels, the following have proved the most useful: (1) James I. Brown, *Efficient Reading* (Heath), contains interesting articles on several levels of difficulty to be used with accelerators or timer; (2) Doris W. Gilbert, *Power and Speed in Reading* (Prentice-Hall), offers a rounded course in speed perception, vocabulary building, interpretation, rate, and comprehension for the more advanced students; (3) Marvin D. Glock, *Improvement in College Reading* (Houghton Mifflin), classifies comprehension checks under five major categories: fact or detail, relationships, tone and intent, organization, and word meaning in context; (4) Walter S. Guiler and Claire J. Raeth, *Developmental Reading* (Lippincott), provides for systematic development of eighteen skills including exercises on outlining, reference words, point of view, inferences, humor, and allusions; (5) Julia F. Sherbourne, *Toward Reading Comprehension* (Heath), uses instruction on reading skills for timed reading; (6) Christian O. Weber, *Reading and Vocabulary Development* (Prentice-Hall), approaches the problem of increasing speed with accuracy through vocabulary exercises arranged for thematic unity—exercises are timed to enforce concentration. Because honor students are intent on increasing their reading rate, they request frequent informal tests. They are reminded, however, that speed is directly related to the purpose and difficulty of the article and must vary accordingly.

Perceptoscope training supplements the pacers and SRA rate cards in the concentrated effort for rate improvement. Besides the series of instruction films on skimming, scanning, word analysis, and critical reading, the Perceptoscope course consists of ten training films, each of which contains tachistoscopic drills

and two or more selections which are paced by film control loops. A range of 120 to 2000 words per minute is possible. Provision is made for periodic re-viewing of certain articles at an increased rate. The familiarity of the material does not detract from the value of the drill at accelerated pace. The same can be said of the tachistoscopic drills, which are fundamentally warm-up exercises to increase perception and eye-span. Reverting to earlier drills at high speeds dramatizes the gains made.

Since the reading rate varies as much as three hundred words in such groups, it is necessary to plan a double schedule involving a minimum of time. This is achieved by dovetailing the second viewing for the slower group with the top speed projection for the rapid readers. This plan can be extended as necessary. A projector of this versatility has a fascination for the student, but the pressure is high and the drills require hard work and determination. It is a tool, not a toy.

The purpose of our brief introduction to logic is to lay the foundation for straight thinking and clear writing. Validity and truth are the ingredients of good argumentation. Therefore validity is made the keynote of the study of deduction, while the pursuit of truth becomes the central idea underlying the work on inductive processes.

The students learn to detect fallacies to which they are exposed daily in news, editorials, advertising, and speeches as well as in their personal lives. Using as a text, Manual Bilsky's simple and lucid presentation in *Logic and Effective Argument* (Henry Holt), they study the kinds of propositions, the formula and diagram methods of representing the syllogism, and three simple rules for deductive reasoning. Next, the class considers the facts and causal relationships in the evidence underlying induction. Revelation of truth depends on the reliability of the witness or on the evidence supplied by history, documents, statistics. At this point they see the correspondence of the scientific method with everyday thinking: observation, hypothesis, prediction, and test. They become aware of three major fallacies of induction: misuse of authority, hasty generalization, and the *post hoc* fallacy. It is an elementary presentation employing a minimum of technical terminology and limited to

the needs of the student writer. As such, it lies within the grasp of seniors of this calibre.

As the culmination of this study, a paper is required on a topic close to the students' interests. For background, the following references, available in the school library, center three to five articles on such fields of interest as the younger generation, general vs. specialized education, politics as a career, science and religion, American characteristics, entertainment media, and life perspectives:

1. T. A. Barnhard, William A. Donnelly, and Lewis C. Smith, Jr., *Viewpoints* (Prentice-Hall), has discussion questions requiring analysis and suggests avenues for the student to explore.
2. Earle Davis and William C. Hummel, *Readings for Opinion* (Prentice-Hall), includes guide questions.
3. John Gerber and Kenneth Houf, *The Writer's Resource Book* (Scott Foresman), discusses writing techniques and concludes each category with a student theme.

From this point the student brings his thinking up to date by reading current periodicals. Though more recent texts of this type are available, these have been most valuable in initiating the final creative activity. From his fund of information, the student is now qualified to defend his point of view on a controversial topic of limited scope.

Materials and Methods: Junior

To bridge the gap between upper and lower class programs, groups of juniors have been organized in the reading laboratory. There are some deviations from the procedure outlined above.

Reading for Understanding by Thelma G. Thurston (Science Research Associates) furnishes the multilevel material necessary for the individual approach. These cards, with record books for self scoring and graphing, are brief exercises of sentence or paragraph length requiring judgment and ability to make inferences. There are one hundred steps of increasing difficulty, which lead the student to develop the habit of reading critically, not passively. Since the cards in this box do not provide for vocabulary building as do those in the senior course,

we rely on the College Entrance Book Company's masterguides, *Vital Vocabulary Drills,* which use the structural approach. With these mimeographed sheets, each student has a permanent word book to which he makes his own additions. Another useful text is H. C. Hardwick's *Words are Important,* grades seven to thirteen (C. S. Hammond), which introduces each word in context four to six times.

Proportionately more time is devoted to increasing rate in the junior classes since, as basic groups, they have more need for speed-up practice. Pacers are assigned on a one-, two-, or three-day basis as indicated by the pretest. As the semester advances, reassignments are necessary after successive rate tests.

A number of practice books serve our purpose: (1) William D. Baker, *Reading Skills* (Prentice-Hall), provides for timing and for application of the skills discussed; (2) Walter S. Guiler and J. H. Coleman, *Reading for Meaning* (Lippincott), grades ten to twelve, requires the student to recognize facts, central idea, best title, organization, and vocabulary; (3) Lyle L. Miller, *Increasing Reading Efficiency* (Henry Holt), provides exercises with readability scores (Flesch formula) ranging in difficulty from grade ten up; timed recognition drills (word, phrase, and sentence meaning), and selections scored for efficiency: comprehension x rate; (4) Nila B. Smith, *Be a Better Reader,* Books IV and V (Prentice-Hall), is recommended for its emphasis on the specific skills required in the content areas; (5) George D. Spache and Paul C. Berg, *Art of Efficient Reading* (Macmillan), discusses purpose, intensive reading, problem solving, and scanning as they apply to the four content fields.

A list of books suitable for rapid reading is furnished from the scaled lists available in the *Manual* of Psychotechnics, Inc., whose electric Shadowscopes are among our pacing equipment. There are fifteen reading levels of which eight through fifteen serve the range of ability at Taft. At no time, incidentally, is the use of any library choice discouraged, and upon occasion even assignments have appeared under the pacers.

Experience shows that the projector's most important role is in the junior program. The reading rate of these students is much lower, often well under two hundred words per minute, so that the achievement of a satisfactory increase at this level promotes general academic success. The method is essentially the

same though the films are set at closer intervals and are more frequently re-viewed. Interest never lags because pacing is a challenge, and the articles both on film and in the accompanying reader on such varied topics as buried treasure, moving sidewalks, and Frank Laubach's "Each One Teach One" have considerable popular appeal.

Materials and Methods: Freshman

The *Reading Laboratory,* Secondary Edition, by Don H. Parker (Science Research Associates), similar in construction and administration to the college preparatory laboratory, is our basic material for the freshman course, conducted in the regular classroom as an integral part of the English class. Since the Perceptoscope and accelerators are available only in the reading laboratory, exercises in speed are usually limited to the rate cards timed by the instructor. Opportunity for pacer practice is also offered to the individuals whose programs permit attendance during the volunteer periods. The success of the present experiment, measured by student and teacher interest, is a good omen for the future expansion of the course.

Data and Analysis

Since comprehension and rate are inseparable factors in reading growth, the data resulting from a semester's work pose some interesting questions. Certain tentative conclusions can be drawn at this time, but the test data are valuable chiefly in planning adjustments and in a more careful analysis and evaluation. Drawing from this experience, we would like to know, for instance, whether

1. a concentrated program of this nature in the first semester will assist the freshman to approach the *Differential Aptitudes Tests* the following semester more efficiently and hence reveal a more accurate measure of his academic power;
2. the consistently slow reader whose comprehension is high is capable of improving his rate in the ordinary classroom without laboratory facilities;
3. rapid growth in the senior year is motivated by the imminence of the scholarship tests, or whether the intense activity must be attributed to a more mature sense of self-direction.

Our first concern is to study the gains made in relation to the type of class—normal or honors group—and to the potential of the individual student as indicated by the ACE (American Council on Education) scores, which at Taft closely correlate with National Merit ratings.

From observation we can report that rate increases are slower in developing, partly because the students have established poor reading habits and often because the individual prefers to work with the laboratory power cards. Comprehension is more important to the students in the initial stages. Gradually they become interested in speed as they gain in self-confidence.

The senior activity tends to answer one question with which we entered the program. The enthusiasm among honors students is more immediate and more sustained, but not to the extent which would suggest limiting an intensive reading program to this type of student. A glance at the record of the first semester reveals that conscientious students in the basic classes made gains as satisfying as those achieved by the seniors, so that we feel they have fully justified the time devoted to the special course. We recognize that the individual's attitude and study habits are the deciding factors, which, in reading as in any academic field, influence what he finally accomplishes. As a group, however, the most consistent gains were made by the middle groups, probably because the students in the upper quartile were already reading efficiently. The median rate achieved by the juniors was 301 words per minute with gains as high as 192 words, the median grade level, 12.2.

Senior achievements in rate were proportionately greater, a high of 769 words with a median of 360 on material above twelfth grade level as tested by the Reading Ease Calculator (Science Research Associates) and by the Flesch formula. The most spectacular increase was 352 words. Without exception they attained comprehension scores above grade level; the median was 13.5.

Since senior activities are so varied, we are interested in the correlation of their scores on the American Council of Education tests with their achievement on the Cooperative *Reading*

Test, the Brown-Carlsen *Listening Comprehension Test,* and the Watson-Glaser *Critical Thinking Appraisal.* The medians were quite satisfactory: Reading, 87 percentile; Listening, 75; and Critical Thinking, 96. Comparable results, though not recorded here, were achieved the following semester.

TABLE I

Senior

Member-ship	ACE	Rate							Comprehension:								Coop. Test C I					
									Grade level								Comparisons with ACE					
															Reading		Listening		Critical Thinking T		Critical Thinking Q	
		Above: 100	200	300	400	500	600	700	12	13	14	15	16		Above e	Below w	Above e	Below w	Above e	Below w	Above e	Below w
4	90	1			1			2				1	3		2	2	3	1	2	2	2	2
10	75		3	3	3		1			3	4	1	2		7	3	1	8	10	0	9	1
7	50		2	4	1				1	6					3	4	4	3	7	0	6	1
2	25		1	1						2					2	0	2	0	2	0	2	0
23	Tot.	1	6	8	5	0	5	2	1	11	4	2	5		14	9	10	12	21	2	19	4
	Med.	Rate: 360 + grade 12 Grade 13.5 Gain: 102													87		75		96			

TABLE II

Junior

Member ship	ACE	Rate					Comprehension:			Survey Test	
							Grade level			Comparison with ACE	
		Above 100	200	300	400	500	On or above 11.9	11.0-11.8	Below 11.0	Above	Below
11	75	1	1	7	1	1	9	1	1	1	10
28	50	1	13	12	2		19	4	5	17	11
27	25	4	17	6			16	9	2	21	6
7	0	1	5		1		1	1	5	7	0
73	Total	7	36	25	4	1	45	15	13	46	27
	Med.	Rate: 301 Gain: 42					Grade: 12.2			55	

Evaluation

This is a challenging program, and the interested reception by the students is a day-to-day reward for the effort necessary to develop it. The high achievement and enthusiasm, to be expected in an honors group, gradually appears in the regular classes, revealed from time to time as someone "catches fire" with the idea and suddenly races ahead. Often hitherto passive students report during the volunteer periods also. The open-door policy, we feel, pays off too when fifteen seniors are willing to devote two periods a day with unflagging interest. Unsolicited comments about better preparation of history assignments, a TV program that paralleled a topic introduced in the laboratory, a plan for outside reading, a satisfaction and pride in the semester achievement—all support the belief that we have developed something worthwhile. Certainly the complete freedom to explore a new field has been a unique and gratifying experience.

As the principal participants in the experiment, the students themselves are the best justification for the time and money expended. In the final stages, therefore, they are given the opportunity to weigh the benefits in terms of their individual problems and achievements. The approval is general, each seeing in the program some phase important to himself.

No objective measurement can reveal the value accruing to the individual. It is hoped that such an investment of time and energy will accumulate dividends through the years in academic proficiency and in an increasing love of reading.

The Non-Standard Student Versus the Standard College Textbook

EUNICE SHAED NEWTON

THE LEARNING PROBLEMS experienced on all levels of education today by students who possess inadequate language skills have been studied with maturing insight in recent years.[1] The fact that standard English usage may be an alien tongue for the student of limited and vulgate language habits poses many instructional problems in our schools. It has been proposed recently that schools may have to assume greater responsibility for developing ways of translating the language of the school into the idiom of their verbally destitute students.[2] Through such efforts, it is suggested, the communicative barriers between the school and the learner may be broken.[3]

Within recent years as rising enrollments have increased the variety of the intellectual and competence backgrounds of college students, institutions of higher education must face the problem of instructing the verbally destitute student. Various types of credit and non-credit courses in English and basic reading and writing skills have been initiated by many colleges and are intended to offset weaknesses in their students' language skills. Even though in the opinion of some college teachers these language development courses are beneath the dignity of and outside the responsibility of this level of education, it is the considered opinion of others that colleges will be justifiably involved in these programs in the foreseeable future.

The staff of the Reading Skills Center of North Carolina College at Durham has been genuinely concerned about the reading demands of certain textbooks which the freshman must encounter. At times, the chasm seems almost illimitable between the text and the college freshman who has immature language skills. Some of these freshmen utilize non-standard English in practically all of their oral and written communication and find it difficult to comprehend the standard language

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of the school and the formal language of the textbook. In addition, therefore, to the regular emphases of instruction in basic college reading skills,[4] the staff has become gravely aware of the need for new perspectives, new skills, and new information to be used in teaching their verbally immature students. Many questions urgently need answers. What reading skills, for instance, are required of a college student to ensure basic understanding of a social science textbook? Who are our verbally destitute students, and what are their distinguishing characteristics? What should be basic to an approach in reading instruction of students of limited verbal ability? Answers which we have begun to find to these questions are the focus of this report. These answers have given us new perspectives in assisting students to meet the demands of standard college textbooks.

Reading Demands of a Social Science Textbook

Although there is no universally accepted system of labelling the various levels of usage in English, *formal* would be recognized as the appropriate descriptive label of most college social science textbooks. The precision of the vocabulary, the abundance of polysyllabic words, the complex sentence structure, the avoidance of localisms, and the use of a highly structured style abounding in figurative language, all tend to confirm these texts as being *formal*. An examination of an introductory social science textbook of wide adoption would immediately corroborate this usage level classification.[5]

What does a college social science textbook demand of the student in reading maturity? A summary follows of the more significant reading skills required:

(1) *A basal reading vocabulary of 15,000 to 20,000 words.* This is, of course, an estimate. A word sample was checked against a reputable frequency-of-use vocabulary study.[6] Although social scientists today avoid words of extreme rarity in their texts, in the interest of vigor and clarity of expression, mature polysyllabic abstractions are often used. Nomenclature and proper nouns sharply increase the difficulty of the vocabulary of these texts.

(2) *An understanding of English syntax.* In the expository writing of the social sciences long sentences are practi-

cally unavoidable. Even though the sentence structure may not be ambiguous, syntactical maturity is needed when several prepositional phrases are used as modifiers and subordinate clauses qualify the main clause.

(3) *An understanding of the essential rhetorical techniques.* The college social science textbook is highly structured. Clearly organized paragraphs as to function and development are the rule rather than the exception. Knowledge of the essential rhetorical devices is mandatory for mature comprehension.

(4) *Knowledge of the graphic and typographical aids to comprehension.* Pictures, charts, graphs, diagrams, maps, italics, bold-face type, and special indentations must be understood and utilized as clues to interpretatation.

(5) *Skill in utilizing the organizational structure of the text.* Knowledge is needed of the functions of the table of contents, title, sub-titles, the index, appendix, footnotes, and glossary. The importance of the preface cannot be overemphasized.

(6) *Facility in the interpretation of figurative and non-literal language.* The college social science text achieves vividness and lucidity through abundant use of metaphors, similes, litotes, hyperbole, metonymy, and personification. Non-literal sayings – aphorisms, adages, and maxims–are regularly encountered. Effective interpretation within the framework of these stylistics is the real acid test of maturity in reading.

(7) *A repertory of reading rates.* Since chapters in social science texts may often contain 10,000 running words and are usually saturated with facts, the student must have a systematic study-reading technique. A formula such as S Q 3R should be regularly employed.

(8) *Functional mastery of the mature reading interpretative skills.* The student must be able to: (a) distinguish between main ideas and supporting details; (b) generalize, summarize, and synthesize related ideas; (c) distinguish between facts, judgments, and inferences; (d) critically evaluate the author's mood, purpose, tone, and bias.

In addition to the specific skills mentioned in the foregoing, the student must bring to the college social science textbook a framework of significant geographical concepts—economic, physical, and political—to serve as a matrix of reference.

"The Non-Standard Student"

The personal characteristics, socio-economic status, and language patterns of students who have serious problems in communicating have been described.[7] A summary of their image follows:

(1) They come from families in which there are usually fewer than two full generations of literacy.

(2) They are often the products of small, sub-standard public school systems which are located in communities of barren cultural advantages. In large municipalities, they are from the ghetto-like areas.

(3) They are frequently members of submerged cultural entities of our society—e.g., Puerto Rican, Negro, or of recent immigrant stock. The language patterns of their communities, which are often isolated from the main streams of social interaction, are vulgate, highly idiomatic, and sometimes regional.

(4) During their formative years, they communicated customarily through non-standard English characterized by: (a) casual observance of standard English inflections, (b) simple, monosyllabic words, (c) frequently mispronounced words, (d) rare use of descriptive or qualifying terms, and (e) the simple sentence or sentence fragments in both oral and written expression.

(5) They often perform two or more years below grade expectancy on verbal tests, but frequently demonstrate adequate scholastic potential on non-verbal tests.

(6) General disaffection for the educative process is displayed by many of these students through aggressive, defensive, or indifferent attitudes in class, although they may be persevering in their desire to finish college.

Of national concern today is the vital question of how to make sure that the capacity of all persons to achieve is fully de-

veloped. When students who possess the personal history and verbal competencies described above meet the standard college textbook, academic disaster usually follows. What a waste of human potential this is! It is the considered opinion of many educators today that since colleges allow these students to matriculate, colleges are committed to the development of their potential.

An Approach in Helping the Non-Standard Student

Psychologists have observed that in our culture no other educational inadequacies create as great a sense of personal frustration and failure as reading difficulties and oral language ineptness. This is due largely to the fact that everyone of normal intelligence in our verbal society is expected to master these skills in order to advance in his schooling. Indeed, reading and language facility are frequently considered to be criteria of an individual's mental acuity and cultural attainment. By the time a student reaches college, he is less able to rationalize his defects or to avoid conflict associated with his deficiencies and thus accumulates more and more frustration. The student in college, therefore, who is verbally destitute is a special instructional problem.

The staff of the Reading Skills Center of North Carolina College is bold to suggest that the key to assisting these students in upgrading their verbal competence lies not so much in systematic, planned instruction as in *the climate of operation* of the instruction. This must not be construed to mean that we consider of little value regular, sequential learning experiences which embrace the exposition of essential reading skills, guided practice, and follow-up individual reinforcement. We are committed to this cycle in our program. What we are submitting, however, is that *a climate of acceptance* which inextricably permeates the instructional program is likely to free the potential of these students with greater efficacy.

By *climate of acceptance* we mean that the classroom and reading laboratory are free from derision and deprecation; that the teacher is optimistic, buoyant, supportive, and energetic; that the students are brought to face their inadequacies

objecively but not brutally; that students are guided gradually to assume maximum responsibility for their own development.

We have found that concentrating upon the reading skills without establishing and maintaining a working rapport frequently leads to minimal achievement. On the other hand, exceptional and normal progress is not infrequent in an atmosphere of mutality of goals predicated upon mutuality of respect.

The teacher-directed instruction, we suggest, should be infused entirely by a practice which we choose to term, *synonymity*. By *synonymity* we mean the regular, unfailing habit of automatically "translating" any suspected difficult abstract word or non-literal phrase into more familiar expression. If for example, an article refers to ". . . the deleterious results of the use of narcotics. . .", the teacher would paraphrase this to "the harmful, or injurious, or detrimental results of the use of narcotics." This technique does not obviate dictionary and vocabulary study; rather, it reinforces them. *Synonymity*, we believe, expands, reinforces, and entrenches reading comprehension through incidental vocabulary extension in context. This is just one way of bridging the gap between one aspect of nonstandard and standard English usage.

A Final Word

Many able young people today are so restricted in their verbal skills that they are unable to secure essential concepts commensurate with their learning potential. Freeing the capacity of these students for more effective learning can be accomplished through new perspectives and new approaches. Surely, this task deserves our best efforts.

References

1. See D. B. Blewett, "Decline of Verbal Standards in Universities," *School Review*. LXVI (March, 1958), 93-101; Eunice Shaed Newton, "Verbal Destitution: The Pivotal Barrier to Learning," *Journal of Negro Education*. Fall, 1960.
2. Werner Cohn, "On the Language of Lower Class Children," *School Review*, LXVII (Winter, 1959), 435-440.
3. Association for Supervision and Curriculum Development, *Freeing Capacity to Learn*. Washington, D. C.: National Education Association, 1960; see also Jerome S. Bruner (ed.), *The Process of Education*. Cambridge, Mass.: Harvard University Press, 1960.
4. The major instructional emphases in the Reading Skills Center of North Carolina College at Durham are these: (a) activities and materi-

al which give students insight into their goals in reading and study through knowledge of the nature of reading, the study cycle, and nature of the English language; (b) the basic word-perception skills and word-attack skills which give students independence and power in vocabulary-building through phonetic skills, dictionary skills, and structural-analysis skills; (c) the essential comprehension and interpretative skills basic to reading college textbooks in the various disciplines; (d) the organizational and study-reading skills which undergird adequate accomplishment in all types of study assignments; and (e) the mechanical skills of reading which ensure flexibility of rate, and general efficiency in facile perception.

5. T. Walter Wallbank and Alastair M. Taylor, *Civilization Past and Present*. New York: Scott, Foresman, 1956.
6. Edgar L. Thorndike and Irving Lorge, *Teacher's Word Book of 30,000 Words*. New York: Bureau of Publication, Teacher's College, Columbia University.
7. See Cohn, Newton, and Ruth Golden, *Improving Patterns of Language Usage*. Detroit: Wayne State University Press, 1960.

Books Received

Recently Doubleday and Co., Inc. inaugurated a series of books for children entitled Signal Books. To date the following have appeared:

BONNIE, Lee Wyndham
PONY OF THE SIOUX, M. J. Pearson
NORTH POLE, Tony Simon
THE JUNGLE SECRET, Ingram See
CAROL HEISS: OLYPMIC QUEEN, Robert Parker

EDUCATION FOR LIVING, by Jacob Samuel List. New York: Philosophical Library, 1961, 112 pages. The description of a method of psychotherapy stressing warmth and love as important elements in the therapeutic process.

OUR LIVING LANGUAGE, by Kellogg W. Hunt and Paul Stoakes. Boston: Houghton Mifflin Company, 1961, 627 pages. A Freshman English reader that directs the student to the language in its most vital forms, impelling him to an awareness that language "pungently alive can add conviction to message and enchantment to fact." Contains essays, short stories, two plays, poems, and sections on criticism.

LETTERS TO MY TEACHER, by Dagobert D. Runes. New York: Philosophical Library, 1961, 105 pages. The author attributes many of the present day failures to the inadequacy of the previous generation's teachings.

PSYCHOLOGY AND EDUCATION, by Hirsch Lazaar Silverman. New York: Philosophical Library, 1961, 165 pages. Contains chapters on The Psychology of Democracy in Education, Discipline, Psychological Implications in Platonic Philosophy.

EYE MOVEMENT PHOTOGRAPHY WITH READING EYE, by Stanford E. Taylor. Huntington, New York: Educational Developmental Laboratories, 1960, second edition, 22 pages. Contains useful chapters on analyzing and interpreting the eye-movement photograph.

Visual Sensation and Perception of Disabled Readers

ALBERT J. HARRIS

TYPICAL READING is not a single act of perceiving and attaining meaning, but a continuing closed circuit in which each moment of perception produces a feedback effect that sets the organism for the next cycle of sensory excitation, perception, meaningful reaction, and readiness for the following unit. In this rapid sequence, meaning builds up through a sequence of meaningful perceptions which the individual is able to organize into an ideational totality.

For the individual who has difficulty in learning how to read, this continuing cycle can go wrong at any stage. Thus in different disabled readers difficulty may arise because of lack of sensory keenness, imperfect adjustment of the eyes to the brightness, distance and direction of the printed stimulus, inadequate function at several different levels of the nervous system, lack of the background of previous experience necessary for correct meaning, disruption or inhibition which is primarily emotional in origin, imperfect feedback so that the sensory organs are not properly adjusted for the next perceptual unit, and finally inability of the organism to achieve a meaningful synthesis of a whole sequence of perceptions into a unified idea or set of ideas. If this analysis is correct in its broad outlines, one must necessarily adopt a pluralistic view of the causation of reading disabilities.

Each step in this process deserves intensive consideration. In this paper, however, there is room only for a look at the recent evidence regarding the significance of visual sensation and visual perception.

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Visual Sensation

The significance of visual difficulties in relation to reading difficulties was reviewed by a research psychologist, an opthamologist, and an optometrist at a recent annual conference of the International Reading Association. In her review of the research, Helen Robinson[1] reported that in general poor readers are more hyperopic than good readers and that myopia is of little significance in the causation of reading problems. One of the implications of this finding is that the Snellen Test is of very little value in determining whether a person with a reading problem has a related eye difficulty. The other visual difficulties that have been emphasized as significant in recent research are all difficulties that involve eye coordination. They include difficulties in depth perception, visual fusion, lateral and vertical phoria, and duction. Some of these factors involved in binocular coordination are not measured by the commercial visual-screening tests that have been coming into wider use in recent years.

Speaking on the same program, Samuel Blankstein,[2] an opthamologist, pointed out that in most cases of myopia near vision is good and that in most cases of hyperopia children have a tremendous amount of reserve accommodation that makes the use of corrective lenses questionable unless there is also a difficulty in eye muscle balance. He estimated that about ten percent of children with reading disabilities have related visual defects that need treatment in the form of glasses or orthoptic training or both. He also pointed out that such conditions as strabismus, nystagmus, and difficulty in binocular coordination are very frequent in cerebral palsy and that, when such conditions are found in children who present no evidence of cerebral palsy, these eye symptoms may be the only manifest indicators of cerebral injury or dysfunction.

The optometrist, Marguerite Eberl,[3] emphasized that seeing is a learned act and that good vision can be taught or enhanced by proper visual training. Again the correction of the common defects such as myopia and hyperopia was de-emphasized as compared to the significance of developing good control over eye movements and eye focus.

There seems, then, to be considerable agreement that the sensory defects which are caused by structural deviations of the eye, defects such as myopia, hyperopia, and astigmatism, are of considerably less significance for reading disability than deficiencies in the aiming and coordination of the eyes. With regard to these coordination defects, on the one hand it is suggested that they may be symptomatic of neurological defects or deviations that may be fundamental to the learning problem, and on the other hand there is agreement that most of these coordination defects may be treated through the use of prismatic lens corrections, orthoptic training procedures, or a combination of the two.

Visual Perception

Current methodology in the teaching of reading assumes that it is easier and faster for a child to learn to respond correctly to the appearance of a word as a whole than to perceive it part by part and then put the parts together. This has two different sources of authority. One is the research on perception under extremely short exposure times, begun by Cattell almost eighty years ago. Cattell was able to demonstrate quite satisfactorily that long words could be perceived in just as short a period of time as short words, and that in general words could be perceived with even shorter exposures than single alphabet letters.[4] The other base has been in Gestalt psychology, with emphasis on the primacy of the whole over the parts. The development of perception has been conceived to be from awareness of a rather vague whole perceived against a dim background, to increasing ability to perceive sharp and clear details within the total configuration.

The development of visual perception in children has recently been thoroughly analyzed by M. D. Vernon.[5] In general, young children do tend to see things as a whole, but the perception of shapes as wholes depends upon the "goodness" of the shape in the Gestalt sense: whether the shape forms a coherent whole with a fairly obvious structure, or whether it consists of a complicated mass of unclear and unrelated detail. At least some children are less likely to see words as wholes than as meaningless symbols of details with no apparent relationship between them. On the other hand, some children who

become disabled readers apparently react to the word as a whole with insufficient attention to the features which distinguish one word from another.

There is ample evidence that tests of visual perception skills are significantly related to success in the beginnings of reading. Every reading-readiness test in use has one or more sub-tests involving noticing similarities and differences in visual form.

It seems, however, that these perceptual skills are highly specific. Gates in 1922 reported[6] that in children over seven years old there was no significant correlation between the ability to detect small differences in geometrical forms, and perceiving verbal material. In a recent Swedish dissertation Malmquist[7] used five different tests of visual perception with first-grade children. The tests which involved comparison of groups of alphabet letters and groups of arabic numerals showed significant relationships with learning to read. The three tests which involved geometrical shapes and meaningful pictures of various kinds showed much lower correlations with success in reading, barely reaching statistical significance. Apparently the more the perceptual object looks like a word, the better the results are in predicting success in identifying printed words.

Nicholson recently studied the ability of children to match and identify alphabet letters.[8] In a population of over two thousand beginning first graders in New England, 68% were able to match capital letters perfectly and 38% were able to match lower case letters perfectly. Five errors or more in matching lower case letters were made by only five percent of these beginning first grade children. Letters that were hardest for them were b,d,p and q, all of which are represented by the same shape turned in different directions. The next three letters in difficulty were h, g, and l. It seems evident, therefore, that many beginning readers do not pay much attention to the directional orientation of letters. They are not concerned with whether the letter faces to the left or to the right, whether the round part is on top or on the bottom. There are also many children who respond to the total impression of the letter, to its height or width, rather than to its exact shape.

The perception of words was one of the first experimental problems tackled by psychologists. In the studies referred to above, Cattell found that adult readers could recognize words

after very brief exposures, that they could recognize full words with slightly less exposure than was necessary to recognize individual alphabet letters, and that good readers could recognize short phrases and even short sentences as quickly as they could recognize single words.

However, eye movement studies of children indicate that this degree of perceptual skill is achieved slowly. At the end of the first grade the average reader requires about two or three looks per word. He may be trying to see the word as a whole, but he often has to look at more than one part of it or has to look more than once at the word as a whole before recognition occurs. In spite of Cattell's finding that the physical light stimulus only has to be present for about two thousandths of a second for an adult reader to be able to recognize it, eye movement studies show that the average duration of the visual fixation during reading is between a quarter and a third of a second. Relatively few good readers have a shorter average duration of fixation than one-fifth of a second.[9]

The results of a new standardization study of eye movement photographs have been published by Taylor and his associates.[10] Over 12,000 subjects were tested in a national sampling, with more than 1000 at each of the following levels: grades 1, 2, 3, 4, 5, 6, 8, 11, and college. In comparison with earlier studies, rate of reading was slightly higher in grades 1 and 2, the same in grade 3, and lower from fourth grade up. In average words per minute the rate was 115 in grade 2, 158 in grade 4, 185 in grade 6, 204 in grade 8, 224 in grade 10, 250 in grade 12, and 280 in college. Previous averages for high school were 296 and 315, and for college, 333 and 340.

Whether this represents any decline in performance at the upper levels is uncertain. The camera was a new model; the test selections were longer; and a greater effort was made to get a representative national sampling. Most important, however, is the possible effect of changes in promotion policies and in the percentage of students continuing through high school and into college; these factors alone could be responsible for an apparent drop in average performance.

In view of the stress that has been placed on phrase reading, it is disappointing to note that the number of fixations per 100

words drops quite slowly from 120 at grade 6 to 105 at grade 8, 94 at grade 10, and 90 at college level. Not until grade 10 does the average reader see a word per fixation, and at college level the average span of recognition is still only 1.11 words. Whether this indicates that efforts to train students to perceive phrases as units are unrealistic, or whether it simply indicates that training which would improve perception by phrases is not being given in most secondary schools and colleges, is open to further investigation.

Whatever the explanation, Taylor's results give no room for complacency about the present level of reading efficiency in high school and college, and point strongly to the need for developmental reading programs at these levels.

The problem of reversals in the perception of words and letters has been a fascinating issue for many years. Reversal difficulties are significant in a minority of children who have serious reading problems. In these cases, however, the problem is a serious impediment to progress in learning to read, and cannot be lightly dismissed. Back in 1932, Marion Monroe[11] presented convincing evidence not only that poor readers made a much larger number of reversal errors than good readers of equal level, but also that on very easy reading material the poor readers could read in a mirror better than the good readers could. This problem of confused or reversed orientation in reading perception has unfortunately become confused with the problem of left- and right- handedness and -eyedness. While these two issues are related, they are not identical, and it is becoming increasingly clear[12] that the major question with regard to reading is the presence or absence of directional confusion rather than which hand or eye is the preferred one.

Research on brain injury in recent years has emphasized the potential value of tests of visual perception in a diagnosis. Among the tests for which good diagnostic differentiation is claimed are those involving critical flicker frequency, the perception of apparent movement, the presence and persistence of certain types of after-images, the reproduction of forms by copying and from memory, and tests such as Werner's Marble Board Test in which the figures to be reproduced are made of discreet units rather than connected lines. To those interested

in the analysis of reading disabilities this research is interesting, but not yet of any great practical utility. Diagnosis of central nervous system disorders must reach a considerably higher level of accuracy before such tests will help to unravel the causation of reading disabilities. Present findings are still quite ambiguous. For example, Cruickshank, Bice and Wallen in their recent monograph on *Perception and Cerebral Palsy*[13] made particular study of tests involving figure-ground relationships. They conclude that although they found poor performance for the cerebral palsy subjects, they question whether the impairment of the ability to organize individual stimuli into a whole may not be of greater importance than the effects of background in impairing performance of cerebral palsy children.

There is quite general agreement that visual perception among poor readers is susceptible to improvement through specific practice and training. Many different kinds of procedures seem to have value, including kinesthetic reinforcement, intensive study of phonics, and tachistoscopic practice exercises. There is a strong belief by many that there are marked individual differences as to the child's ability to respond to particular instructional methods, but as yet only a beginning in trying to bring this beyond the trial and error stage.

References

In this paper an attempt has been made to review what is known concerning the significance of visual sensation and perception in the production of reading disabilities. So far as the eyes themselves are concerned, farly close agreement has been reached that the common defects of acuity which are correctible with lenses are not too significant in the production of reading problems. Of these, hyperopia or far sightedness is considerably more likely to cause trouble than myopia or near sightedness. The significant visual factors are usually those involving binocular coordination, and the screening tests available to schools and clinics, even the expensive ones, are far from perfect in detecting these.

Clear perception in reading, however, is more dependent upon what happens in the brain than on what happens in the eyes. In this area much of what we need to know to understand

the perceptual problem is still waiting for future discovery. In addition, recent studies of eye movements have shown that improvement in the number of fixations, recognition span, and rate of reading is comparatively slow, especially at secondary school level, and suggests that maximum reading efficiency is being reached by comparatively few students in today's schools.

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The Centinela Valley Plan: A Mandatory Reading and Study Skills Program for Ninth-Grade Students

IRWIN H. FIELDS

A CONCENTRATED EFFORT to eliminate the reading problem in the four schools of the Centinela Valley Union High School District is now well into its second year of operation. The effects of this program have been most encouraging. Not only in the area of reading difficulty has progress been made, but the public, as well as the students and teachers, has been made aware that this problem is one which must be attacked by all, working together, to be successfully defeated.

Some of the background of the development of this program will point out the various aspects which tend to make it unique among the many in operation at the present time. The problem was brought to light forcefully by the results of the Iowa test program being administered in the four schools. The superintendent and the school board realized that there was a problem to be overcome, namely that of helping a group of children, whose intellectual ability was no worse than that in other districts, to learn to read at a higher level and more rapidly with better comprehension. The primary reason for their poor showing on the test instrument was their inability to read the material.

The first step taken by the superintendent was the selection of two reading coordinators for the district. Each of these persons was to work directly with two of the schools, and together they were to prepare and oversee the master plan and approach to the problem.

The problems presented to the two reading coordinators were not unique to this district, but the way they were overcome is. The board proposed that the program should be mandatory, and the superintendent decided the best place to begin would be with the freshmen.

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The basic plan presented by the coordinators called for a six-week program to be incorporated in the English department curriculum. This in itself is a headache producer, because the English area in all high schools is the catch-all for every clerical task and every little unit that has to be tried. Since this was true, the approach to the English teachers had to be slow and cautious. They had to be convinced that the program merited the release of six more weeks from their overcrowded schedules. It was felt that if the teachers were included in the overall plan it would help to show them the inherent problems and how these problems could be overcome by actual use of the materials. In addition to this they would then be trained in the laboratory methods and thus able to carry on with follow-up in the regular classroom situation.

The master plans called for the following:

1. Procurement of a reading specialist for each school. This seemed to be the most insurmountable problem. There were no schools turning out people trained in this field. The only thing left was for us to train them.
2. Allocation of a room to be turned into a laboratory. This was made even more difficult when it was decided to prepare two identical labs. In this way, as the class would enter the lab situation, the specialists would take half of the group, while the classroom teacher would work with the other half. The program followed would be parallel and planned by the specialist and the teacher working together.
3. Selection of materials considered to be adequate to do the job. This was left to the discretion of the reading coordinators. They had been using most of the materials in their own classrooms and thus knew what they would do. (Table 1)
4. Approval of the citizens' groups of the area. This was the easiest of the problems presented. The parents were most cooperative and willing to risk the large sum of money required on a so-far-untried plan.
5. Obtaining the materials in time for the classes to start in September of the following year. This proved to be a difficult task. Since bids had to go out on most of the

materials it meant an additional delay. However, through the cooperation of the suppliers, most of the materials were available for use in time for the start of the new school year.

6. Selection of a good valid test instrument, one which would show us the grade level placement, vocabulary scores, and a paragraph comprehension score. This instrument would have to correlate fairly well with the various test instruments already being used in the surrounding areas. In this way we would have a good check on our methods and any gains they may produce. It would also need at least three identical forms. Thus it would be possible to present a pre- and post-lab test and also a follow-up at a later date. The follow-up would thus show any carry-over from the formal program. (Table II)

7. Keeping valid and accurate records which would tend to present a true picture of the worth of the program. To facilitate this the chart in Table II was devised.
   A, B and C in this chart refer to the Nelson Silent Reading Test Forms. Overall results and other charts which are used will be found immediately following this section. (Table III)

8. Gathering and organization of materials to be put into a student handbook. This was done in order to have a uniform presentation of the various study skills to be stressed and also to have the charts and records kept in an identical manner. This would facilitate the collection and recording of this material. (Table IV)

9. Inclusion of a one-week unit concerning the library and its use, to be conducted by the librarian.

In addition to the measured results which were obtained from this program, there were some which did not lend themselves to charting.

1. Actual acceptance of the program by the students. The comments that they made concerning the various methods and the materials used.

2. Parental approval of the program. This of course was begun when the initial plan was presented for their acceptance. When the students began to mention the laboratory and how it was helping them, the parents then asked for the same program to be presented at night to enable some of them to take it. It was thus proved to be a valuable addition to our adult education curriculum.
3. Teacher approval. This was achieved not only in the English department, but also in many other departments where the results were noted by the teachers. The students were better prepared to take notes, outline their work, and listen to lectures properly and attentively.

This overwhelming acceptance by the English teachers included several suggestions which were incorporated in the plan now effective this year:

1. An increase in the program time from six to eight weeks. This additional time would be devoted to further work with the study skills.
2. Increase of the library unit from one week to four. The library unit was taken over and prepared by the freshman English teachers with the aid of the librarian.
3. Printing of the Reading and Study Skills Handbook in two versions: one for the faculty containing motivational hints and techniques, and one for the use of the students including charts, graphs, and study skills. These were printed during the summer in the district shop.

Except for minor revisions and possible enlargement to include a repeat unit at the junior year, the program as now in force seems to be here to stay as an integral portion of the English department curriculum.

TABLE I

Mechanical Equipment and Reading Materials
(in each lab)

1.	Controlled Reader	All students
2.	Tach-X	All students
3.	Reading accelerators	All students
4.	Reading shadowscope	All students
5.	Tape recorder	All students
6.	S.R.A. Reading Laboratory	All students
7.	Reading for Understanding	All students

8.	S.R.A. *Better Reading Book I*	C Level
9.	S.R.A. *Better Reading Book II*	B Level
10.	S.R.A. *Better Reading Book III*	A Level
11.	*Word Attack,* Roberts	All students
12.	*Be A Better Reader I*	B Level
13.	*Be A Better Reader II*	B Level
14.	*Be A Better Reader III*	B Level
15.	*Be A Better Reader IV*	A Level
16.	*Be A Better Reader V*	A Level
17.	*Be A Better Reader VI*	A Level
18.	Dictionaries	All students
19.	E.D.L. Transfer Reading Manual	A-B Levels
20.	Selma Herr	A Level
21.	Paper-back Books	All students
22.	Miscellaneous Books	All students
23.	Miscellaneous Magazines	All students
24.	Miscellaneous Newspapers	All students

TABLE II

Date _____ Name _____

I. Q. _____ Grade _____ School _____

Nelson Silent Reading Test	*A*	*B*	*Gain*	*C*	*Gain*
1. Vocabulary					
2. Paragraphs					
3. Total Score					
4. Grade Equivalent					

Year Gain _____

TABLE III

School ___ District ___ Group ___ Four ___

Class ___ 9th ___ Date March 7–April 22, 1960 ___

I.Q. Range ___ 69 ___ to ___ 126 ___ Average ___ 100 ___

NELSON SILENT READING TEST

Test "B" _____ 8.3 _____

Test "A" _____ 7.5 _____

GAIN _____ .8 _____

RANGE

Test "B" ___ 4.2 ___ to ___ 11.8 ___ Average ___ 8.3 ___

Test "A" ___ 3.7 ___ to ___ 11.0 ___ Average ___ 7.5 ___

SPEED AND COMPREHENSION

"B"	305	W.P.M.	"B"	88	%
"A"	192	W.P.M.	"A"	80	%
GAIN	113	W.P.M.	GAIN	8	%

CASES BELOW GRADE LEVEL

"A"	617	"B"	520	"A"	617
"B"	520	"C"	272	"C"	272
GAIN	97	GAIN	248	GAIN	345

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Reviews

READING FOR LIFE: DEVELOPING THE COLLEGE STUDENT'S LIFETIME READING INTEREST, edited, with a preface, by Jacob M. Price. Ann Arbor: The University of Michigan Press. 271 pp.

A conference on "The Undergraduate and Lifetime Reading Interest" was held at Ann Arbor at the time of the dedication of the University of Michigan's new Undergraduate Library. This book is the published report of that conference. Co-sponsored by the university and the National Book Committee, the event brought together thirty-seven participants, including professors of many academic disciplines at various colleges and universities, as well as administrators, librarians, editors, publishers, and booksellers. The editor, who is Professor of History at the University of Michigan, has put together a volume consisting of seven papers that were presented and of summaries of the discussions that followed. Rather surprisingly—inasmuch as "conference books" often prove to be perfunctorily slung-together hodgepodges of verbiage—the result is a readable, significant book.

The scope and level of the conference proceedings may be indicated by listing the papers and their authors: Lester Asheim, Dean of the University of Chicago Graduate Library School: "A Survey of Recent Research"; August Heckscher, Director of the Twentieth Century Fund: "Reading in America: Its Social and Cultural Background"; Reuben A. Brower, Professor of English at Harvard University: "The Humanities: Reading in Slow Motion"; Robert C. Angell, Professor of Sociology at the University of Michigan: "Reading in the Social Sciences"; William C. Steere, Director of the New York Botanical Gardens: "The Natural Scientist and the Reading Tradition"; Harold K. Guinzburg, President of Viking Press: "The Role of the Campus Bookstore and Campus Media of Communication"; Ralph E. Ellsworth, Director of Libraries at the University of Colorado: "The University Library and the Lifetime Reader." Not one of these essays is dull, and the résumés of the discussions that ensued are no less lively and informative.

Reading for Life: Developing the College Student's Lifetime Reading Interest has been addressed to those who are "concerned for the texture of the contemporary American civilization and for the place of the book and the values transmitted by the book in that civilization." Such a concern served initially to focus the deliberations of the conference. Mr. Heckscher, for example, was disturbed to find that our nation "is not a book reading country" and that, although its people "flounder in a sea of printed matter," few ever acquire "the humane passion for disinterested reading." Mr. Guinzburg was disturbed by the consideration that though people in the United States now have much wealth and leisure, "they have not formed the habit of spending much of either on book reading." That Americans need, throughout their lives, to read more than they do now was accepted as evident on the basis of reading surveys, library circulation data, and trade book sales figures. One survey indicated that 26% of sampled college graduates said when questioned that they had not read even one book in the past year. A look at studies of book circulation at college

libraries was no more reassuring. Dean Asheim reported that the "average college student" probably reads about twelve unassigned books a year; that half of this circulation is, however, accounted for by 20% or less of the student body; that another 15% may withdraw no unassigned books whatsoever. The conference thus came readily enough to the problem of inducing college students to become avid readers and to remain so throughout their adult years.

An attempt was made to identify the *kind* of reading which the group would wish to see continued for life. Professor Brower wanted reading which "brings the whole soul of man into activity"; Professor Angell, that which is "of high quality and lasting significance"; Professor Loewenberg (of Sarah Lawrence College), that which requires "sustained analysis, contemplation, and the savor of creativity." These definitions may be taken as representative of the majority opinion, which seemingly favored reading that would develop a kind of intellectual and spiritual well-roundedness. A dissenting view was provided by Mr. Ellsworth, who commented that although colleges still carry on the "intellectual training for the few" which was once their principal function, they now offer many other training programs "for large numbers of students, that do not pretend to be intellectual and that do not carry a serious reading commitment that would develop substantial reading habits." He stressed that most of these students "are not looking for the older humanistic pleasures" but for scientific knowledge which "is power-manna to our society," and that they will not "forego acting like a scientist in favor of acting like a 19th century English gentleman, in terms of reading." Mr. Ellsworth seemed to think that the scientifically oriented student, if he were to be motivated for life-long readership, would need to be reached by appeals that a humanist might regard as narrowly vocational and utilitarian.

There was agreement that well-planned, well-staffed libraries could do much to encourage almost any student to read more. The new Undergraduate Library at Ann Arbor, it was noted, had been designed with this purpose in mind and represented a marked departure from earlier concepts, which had put barriers between books and their users and had also herded students together so that they had none of the seclusion which most readers relish. Modern features such as easily accessible books and attractive, informal reading lounges had, it was reported, already increased significantly the amount of student reading done at other colleges that had provided similar libraries. However, Mr. Ellsworth held that the freedom from confinement and constraint which the new kind of library provides must be extended to the librarians as well as to the students. A librarian, he urged, should be regarded as a kind of teacher and should be paid to read and know books as well as to handle them: "Unless librarians can have four to six hours of free time for reading each day, they cannot know books well enough to be competent reading counsellors."

The important role that good bookstores can but too often do not play in developing reading interest was emphasized by Mr. Guinzburg, who called attention to the fact that "many towns all across the country, college or otherwise, do not have a single outlet that can be called a trade bookstore. Even among the college towns, it adds up to a depressing desert with occasional oases." Many colleges, he noted, have nothing but

textbook outlets. Comparatively few have what may be considered complete book stores, run by a first-class bookseller, ready to meet adequately the varied needs of readers. Arguing that it is as important to a college to have ready access to a high-quality book store as it is to maintain high standards in its curriculum and staff, Mr. Guinzburg suggested that an institution lacking such a store could well afford to provide "premises and . . . a loan" to help one get started. He called also for an abandonment of "the present almost obsessive idea that the student can't be expected to buy more than a trifling number of books." Acknowledging that better book distribution would have to accompany any increased sale of books to college students, he said pointedly that "while much energy and philanthropic support is forthcoming to get important works written and printed, little or no attention is paid to getting them into the hands of the people who might benefit from them."

Course instructors were by general consent viewed as having a heavy share of the responsibility for fostering the lifetime reading habit. It was felt that teachers could, if they would but make the effort, plan courses with lifetime goals taken into consideration. They need not present a course as a self-contained, fixed, and final treatment of a subject but might convey a sense of flow and lead students to look toward future developments in a field, which would be continuing during their post-college years. They could interest students in collateral reading and encourage them to proceed outward and onward from the text, the instructor, the course, by means of independent reading. It was, however, recognized that, in practice, long-term educational goals which may be approached through such reading are all too often regarded by students and their instructors as in conflict with immediate course goals. Nevertheless, the long-term prospects of life-long reading itself were hopefully viewed by the conferees, who managed to find comfort in something that many have regarded with misgivings—the coming great increase in college enrollments and the expected relative scarcity of classrooms and qualified teachers. This trend, it was thought, is likely to force a "greater reliance upon the student's ability to read and to study on his own even while he is in college," with the probable result that he will read more in later years as well.

Only one aspect of the book made me a little uneasy: often the conference seemed to be addressing the question, "How can we assure an increased consumption of books?" Indeed, Professor Angell put the problem in very nearly these terms: "What distinguishes the lifetime reading habit we are talking about is that its possessor is *an avid consumer* of significant books" (my italics). And Mr. Heckscher seemed to think that no amount of book consumption is ever enough: "At best one reads little enough of the books of this world." Of course, it is hard to quarrel with such assertions—especially when, as in these cases, they are made by people who love books and reading. My point is merely that the group seemed to assume without question that a greatly increased consumption of books by everyone is greatly desirable. A closer look at this premise might have led to the placing of somewhat more emphasis upon reading purposefully and selectively and not quite so much upon the quantity of reading done. For example, some members might have been prompted to consider, in

interpreting comparisons of the amount of reading done by students in college with the amount done by them after graduation, the possibility that *some* who had finished college had by then learned to go more directly and economically to what they needed to read; that the limited quantity of their reading could, in this sense, be evidence of their effectiveness as readers rather than of their neglect of reading.

I recommend this book as one that is full of good talk by men who have had great and varied experience in fields relating to books. There is in it more significant matter than I can mention in a brief review. Most importantly, perhaps, *Reading for Life: Developing the College Student's Lifetime Reading Interest* presents recommendations that amount to a program of action which readers are challenged to put into effect.

John S. Tuckey

BOOKS, YOUNG PEOPLE, AND READING GUIDANCE, by Geneva R. Hanna and Mariana K. McAllister. New York: Harper and Brothers, 1960. 219 pp.

The authors of this text are both writers and specialists in books and in reading guidance for children. Miss McAllister is a specialist in the field of library science and has served with the American Library Association. Miss Hanna is engaged in the preparation of teachers at the University of Texas. The combined experiences of the two authors have produced a book designed for use by teachers, librarians, parents, and others concerned with guiding the reading of young people of junior and senior high school age, and as a text for college courses in literature for young people.

The text does not attempt to be a critique or an evaluative study of the literature for young people. However, there is an adequate discussion of literary standards. The book could well be of value to the instructor of a university class, to the classroom teacher for reference, and to the librarian heedful of guiding the student in his selection of interesting and/or informational reading material. The text places great emphasis on the importance of aiding the student of junior and senior high school age in his selection of books compatible with his taste, interests, and purpose.

The titles of the chapters are significant in classifying the information found within the book: Young People and Books; The Literature for Young People; Books and the Needs of Youth; Book Selection for Young People; Reading for Escape; Librarians and Teachers, Books and Young People; Reading Guidance; and finally, Recommended Books Referred to in the Text. Additional readings are suggested at the end of each chapter, which are pertinent to the subject matter within the chapter. The chapter dealing with the characteristics, interests, and the needs of youth reviews briefly but sufficiently the acceptable principles of adolescent psychology.

Scarcely five short pages of the text are devoted to the discussion of the selection of adult books for young people. In the opinion of the reviewer more could have been written on the subject. This is probably one of the most difficult areas in the guidance of high school students in their choice of reading. It is at this level that so-called "required reading lists" may become controversial subjects among parents, the general public,

and the teaching staff itself. Further information about and the study of meeting this problem could be of great value to the high school teacher today. It is regrettable that the authors deal all too briefly with this subject of introducing adult books to adolescent students.

The emphasis on the importance of oral reading both on the part of the student and of the instructor is welcome to the classroom teacher who readily sees the value of practicing and of mastering the skill of reading both prose and poetry well.

However, some authorities may disagree with the contention that television, motion pictures, and radio are "competitors of books and of reading" for the leisure time of youth. Some excellent studies have been made which might well question this premise and point to the fact that these media of communication have often stimulated the reading public. Certain motion pictures and certain television programs have been the motivation for the reading of many of the classics. The wise teacher of reading will recognize this fact and will attempt to use these media at every opportunity.

It cannot be denied, as the authors of this text claim, that books may serve as tools to further desirable growth toward maturity; yet there are other factors in the environment of today's youth which may be of equal importance in helping him grow toward maturity. The wise teacher and the wise parent will recognize and utilize every factor, not set up one as the competitor of the other.

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News, Letters, and Notes

With this issue, Volume IV of the JOURNAL OF DEVELOPMENTAL READING is complete. Readers will note that the final portion of the ten-year "Bibliography of Studies in Developmental Reading, 1947-57," is published in this quarter, and that a new annual feature begins, comprising a summary of significant developments in college and adult reading matters. It is the editors' intention to present a college and adult summary-analysis regularly in the Summer issue and the discussion of professional literature on junior and senior high school reading in the Autumn number, as usual. Readers are urged to notify the editors of material worthy of mention in future summary articles.

The final issue of this volume of the JOURNAL would not be complete without the customary and sincere reminder that "If this JOURNAL is to merit enthusiastic support, it will most assuredly depend upon the *continuing* assistance of every one interested in the improvement of reading."

New Publications

A new device for use in reading improvement has been prepared by the Educational Development Laboratories, Huntington, New York, titled *The EDL Study Skills Library.* This collection of readings is planned as a sequential twelve-year program, with each box of materials designed for one reading level in science, social studies, or reference skills. For each box there are ten text-related lessons with answer keys, so that as many as ten students may make use of a single collection of readings at the same time.

Interesting and significant articles continue to appear in recent professional journals:

Mary L. Smith and Isabel V. Eno discuss the importance of readers' choice in "What Do They Really Want to Read," *English Journal,* L (May, 1961), 343-45.

M. Dale Baughman surveys programs of "Special Reading Instruction in Junior High Schools," in *The Clearing House,* XXV (March, 1961), 394-97.

In a two-article series, Nila Banton Smith looks backward in "What Have We Accomplished in Reading?—A Review of the Past Fifty Years," and Paul Witty responds with "Reading Instruction—A Forward Look," in *Elementary English,* XXXVIII (March, 1961), 141-50; 151-64.

The same journal presents two significant papers in a succeeding issue: J. Harlan Shore, "Are Fast Readers the Best Readers?—A Second Report," and Samuel L. Becker, "Teaching of English in the Mass Media," *Elementary English,* XXXVIII (April, 1961), 236-45; 250-58.

The March *Reading Teacher,* XIV, offers Albert J. Harris, "Reading Clinics," 232-35; and Helen Huus, "Libraries Bolster the Reading Program," 236-40.

The vital subject of professonal training and preparation of reading teachers is discussed in a valuable series of articles in the May *Reading Teacher,* XIV, 302-35; 339-42. Consideration is given in

particular articles to the Harvard-Carnegie Report on Reading, to the professional status of reading teachers in the states of Pennsylvania and Minnesota, to specific problems of preparing both high school and college teachers for instruction in reading.

The growing interest in reading problems and research is reflected in three recent issues, February, March, and April, of the *Journal of Educational Research,* LIV: A. W. Anderson, "Personality Traits in Reading Ability of Western Australian University Freshmen," 234-37; Ralph S. Acker, "Reading Improvement in Military, Government and Business Agencies," 238-40; Forbes Bottomly, "An Experiment with the Controlled Reader," 265-69; O. V. Porterfield and Harry F. Schlichting, "Peer Status and Reading Achievement," 291-97; and Edgar A. Smith, "Deveraux Readability Index," 298-303.

New Reading Program at the University of Arizona

The need for improvement in junior and senior high school reading is being increasingly recognized. Recent surveys such as Dr. Conant's report on the junior high schools have called attention to schools in which 35-50% of the ninth grade pupils are reading at or below sixth grade level. With such a deficiency in reading, pupils cannot succeed in the usual academic high school.

At present, high school teachers are not prepared for this responsibility in the teaching of reading. Half of the teachers in the state of Pennsylvania who had been assigned to teach classes in reading had not had a single college course in the teaching of reading. A still larger proportion of teachers of English, social studies, and science have had no preparation in effective methods and materials for teaching the reading of their subject.

A survey by the writers of some of the leading institutions for the education of teachers showed very few that were offering even a single course in the teaching of reading on the high school level and only four or five that had developed a sequence of courses.

To meet this need, the University of Arizona has introduced two new programs in addition to the courses in the teaching of reading in the primary and elementary grades which have long been an important feature of the preparation of teachers in the elementary school.

One program is for administrators, supervisors, prospective high school teachers, and teachers-in-service. Ed. 219, The Improvement of Reading, and Ed. 235, Development In and Through Reading in Secondary Schools, present the whole school program for the improvement of reading with emphasis on methods and materials for teaching reading in the content fields. Undergraduates in education or undergraduates majoring in a liberal arts field who are preparing to teach in high school should include one of these courses in reading in their program, prior to or parallel with their practice teaching. In this way, they will be alerted to the reading problem and can try out certain methods and materials with the pupils with whom they are working. Administrators, supervisors, and teachers-in-service would take one of these courses as part of their continuing education program.

Since these university courses will not reach the large number of teachers now in the junior and senior high schools who feel inadequate as teachers of reading of their subject, a second program has been developed at the University of Arizona—a program for reading consultants who would work with teachers and pupils seriously retarded in reading in an individual school or in a school system.

This program for consultants includes the following sequence of reading courses:

Basic courses in the teaching of reading in elementary and high school: Ed. 219, Ed. 235, Ed. 276, Ed. 225.

A course in group and individual methods of diagnosis of reading development and difficulties: Ed. 335.

A course in supervised work with individual cases and small groups: Ed. 322.

These specialized courses in reading will be supplemented by courses in testing, guidance, mental hygiene, and other related fields. This program for consultants may be taken (a) as a concentrated year of graduate study, following two or more years of successful teaching experience, or (b) on a part time basis which will permit immediate application of the courses taken each semester to the student's daily work in his high school classes.

Already, two superintendents have recognized the value of such a consultant and have released two of their best qualified teachers for intensive work in the University of Arizona reading program this semester. These teachers will return to their schools as consultants next fall prepared to continue to grow in their understanding of and service in this most important of all subjects—reading.

This developing program has the following aims:

1. To prepare prospective high school teachers more adequately for their responsibility in the teaching of reading of their subjects.
2. To provide continuing education for administrators, teachers, and counselors now in the schools.
3. To prepare reading consultants, well-qualified by personality and teaching experience, to work with teachers and with pupils seriously retarded in reading in individual schools or in school systems.
4. To develop materials and methods of teaching the higher level reading skills appropriate during junior and senior high school years in every subject.
5. To develop new methods and materials of instruction, including audio-visual aids, in college classes in the teaching of reading.
6. To encourage doctoral students who will contribute to a useful pattern of research in this area.
7. To offer service and stimulation to the local schools that cooperate in the supervised case work and group work in which graduate students obtain experience in working with real reading problems.

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Conference at Buffalo

The first annual reading conference of the Niagara Frontier Council of the IRA will be held on September 30, 1961, on the campus of the State University College of Education in Buffalo, New York. Theme of this conference is "Meeting the Challenges in Reading Instruction," and featured speakers will be William D. Sheldon, Miriam McSweeney, and Olive Niles. Those interested should communicate with Sister M. Sylvia, S.S.J., Mt. St. Joseph's Teachers College, Agassiz Circle, Buffalo, who is the chairman of publicity for the meetings.

Dissertations in College Reading: 1918 to October 1960

This bibliography is a compilation of doctoral dissertations completed during the period 1918 to October of 1960. The bibliography is considered to be comprehensive, although undoubtedly some studies have been completed which do not appear in these sources.

The dissertations are arranged in chronological order to give some idea of the expanded emphasis on college reading research in more recent years. Almost as many studies have been reported in the last ten years as were reported in the previous twenty. The sources are:

1918-1927 *Ten Years of Educational Research,* 1918-1927, Walter S. Monroe et al., Bureau of Educational Research, University of Illinois, Urbana, 1928, (Bulletin #42).

1926-1940 *Bibliography of Research Studies in Education,* Prepared in the Library Division, Office of Education, by Edith T. Wright with the cooperation of Ruth T. Gray, United States Department of the Interior, United States Government Printing Office, Washington.

1940-1950 *Research Studies in Education, A Subject Index of Doctoral Dissertations, Reports, and Field Studies,* Mary Louise Lyda and Stanley B. Brown, Boulder, Colorado, 1953.

1950-1960 *Dissertation Abstracts,* University Microfilms, Ann Arbor, Michigan.

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1. "The Relation of Reading Ability to Class Marks in Subjects of College Instruction," H. C. Skinner, New York University, 1927.
2. "An Experimental Study of the Reading Abilities of College Students," Alvin C. Eurich, University of Minnesota, 1929.
3. "A Remedial Program for the Inefficient Silent Reader in College," Frank Winthrop Parr, State University of Iowa, 1930.
4. "A Study of Reading Comprehension at the College Freshman Level," Betty T. Berry, University of Southern California, 1931.
5. "An Analysis of Certain Factors Affecting Reading Achievement at the College Level," Mybert Eustace Broom, University of Southern California, 1931.
6. "Elements of Reading Materials Contributing to Difficulties in Comprehension on the Part of Adults," Bernice Elizabeth Leary, Chicago, 1933.

7. "The Improvement of Reading Ability on the College Level," George W. Bartlett, University of Wisconsin, 1933.
8. "The Measurement and Improvement of Silent Reading Among College Freshmen," Ivan Albert Booker, University of Chicago, 1934.
9. "Types of Reading Disability at the College Level Occuring Among Students at the Reading Clinic at the University of Oregon," Elizabeth B. Montgomery, University of Oregon, 1935.
10. "Visual Characteristics of Good and Poor Readers Among College Students," Eleroy L. Stromberg, University of Minnesota, 1937.
11. "Phonic Ability and its Relationship to Certain Aspects of Reading at the College Level," Maurine V. Rogers, University of Iowa, 1937.
12. "Relation of Reading and Study of College Students to Certain Mental and Educational Achievement," Tsai Hwa Chiang, University of Michigan, 1937.
13. "The Measurement and Improvement of Reading Skill at the College Freshman Level," Philip F. Ashton, University of Washington, 1937.
14. "Reading Status of University of Wisconsin Freshmen," Roger L. Slocum, University of Wisconsin, 1939.
15. "Progress of Remedial Reading Instruction for Student Teachers of the State Normal Schools of Maine," Elvena Mattson, New York University, 1939.
16. "Reading Comprehension Among College Students: An Experiment to Determine the Improvement in Reading Comprehension of Eighty-four Undergraduate Students Enrolled in the Department of Educational Psychology, New York University," Elizabeth K. Lawson, New York University, 1939.
17. "A Comparative Study of the Fictional Reading of a Group of College Freshmen and Seniors," Geraldine Lari Clark, University of Chicago, 1940.
18. "The Construction of a Diagnostic Reading Test for Senior High School Students and College Freshmen," Margaret E. M. Conant, Teachers College, Columbia University, 1943.
19. "Reading and Academic Success: A Remedial Reading Program at the College Level," Mother Helen Ethelyn Fox, Marquette University, 1944.
20. "The Use of Standardized Reading Tests in Teachers Colleges," Alfred M. Ewing, Colorado State College of Education, 1944.
21. "Some Relationships Between Reading Ability and Degree of Academic Success in College," Lewis E. Solomon, University of Colorado, 1944.
22. "Changes in Reading of 474 Students During the Freshman Year in College," Millard E. Gladfelter, University of Pennsylvania, 1945.
23. "A Program for the Teachers College 1946 Summer Reading Center," Lydia Adelia Duggins, Teachers College, Columbia University, 1946.
24. "Controlled Eye Movements Versus Practice Exercises in Reading; a Comparison of Methods of Improving Reading Speed and Comprehension of College Freshmen," Frederick L. Westover, Teachers College, Columbia University, 1946.

25. "The Effect Upon Eye-Movements and Reading Rate at the College Level of Three Methods of Training," Marvin D. Glock, Iowa State University, 1947.
26. "The Value of an Oral Reading Test for the Diagnosis of the Reading Difficulties of College Freshmen Showing Low Achievement," Charles Arthur Wells, Harvard University, 1948.
27. "An Experimental Study of Flexibility in Reading Rate Among Candidates for College Matriculation," Frank Laycock, University of California (Berkeley), 1948.
28. "Studies of the Eye Movements in Reading of University Professors and Graduate Students," William R. Dixon, University of Michigan, 1948.
29. "Factors Underlying Major Reading Disabilities at the College Level," Jack A. Holmes, University of California (Berkeley), 1949.
30. "A Survey of the Reading Background of Freshman Students of the Class of 1949 at the New Jersey State Teachers College at Jersey City," Viola Zeliff, New York University, 1949.
31. "A Comparative Study of the Reading Rate Controller Technique versus the Speeded Reading Technique for Reading Improvement on the College Level," Shirley Ullman, New York University, 1951.
32. "Reading Instruction in College: The Evaluation of a Self-Administering Program," Rudolph L. Corvini, New York University, 1951.
33. "Reading Choices of College Students," Willard Abraham, Northwestern University, 1951.
34. "An Appraisal of Reading Programs in Negro Colleges," Thelma T. Murray, Northwestern University, 1951.
35. "The Permanence of Improvement in Adult Reading," Victoria Schmidt, University of Colorado, 1952.
36. "An Evaluation of Gains in Reading Achievement of College Students Enrolled in the University of Kansas Reading Improvement Programs," Donald L. Moler, University of Kansas, 1952.
37. "Improving Reading Skills in College Subjects," Marie R. Cherington, Teachers College, Columbia University, 1952.
38. "Developmental Values in the Voluntary Reading of Adolescents and Young Adults," Samuel Weingarten, Northwestern University, 1953.
39. "A Study in the Improvement of Reading at the College and Adult Levels with Special Emphasis on Tachistoscopic Training," Paul James Rust, University of Washington, 1953.
40. "An Evaluation of the College Reading Clinic at the University of Oklahoma," L. D. Gilmore, University of Oklahoma, 1953.
41. "An Individual Reading Test for Freshmen," Walter John Clarke, Stanford University, 1953.
42. "The Development of Diagnostic Procedure for College Level Reading Classes," William Spencer Bronson, University of Colorado, 1953.
43. "An Integration of Research in Reading and Study Habits with Subsequent Proposals for the Development of Practical Procedures for College Reading and Study Improvement," Paul C. Berg, Cornell University, 1953.
44. "Reading Proficiency of Emotionally-loaded Material," Blair W. Sparks, Purdue University, 1953.

45. "The Predictive Value of Entrance Reading Test Scores at the University of Washington," J. R. Munroe, University of Washington, 1954.
46. "An Analysis of Remedial Reading Programs in California Junior Colleges, Four-year Colleges, and Universities," Milton J. Miklas, University of California (Los Angeles), 1954.
47. "The Administration of a Reading Program for College or University Students," Lillian R. Hoffman, University of Wyoming, 1954.
48. "A Study of Factors Related to Gains in the Reading Rate of College Students Trained with the Tachistoscope and Accelerator," Marvin J. Dumler, University of Kansas, 1954.
49. "Changes in the Academic Achievement of Matched Groups of Remedial and Nonremedial Reading Students at Indiana University," Harry H. O'Bear, Indiana, 1955.
50. "Development of an Enriched Visual Materials Program for the Beginning College Course in the Teaching of Reading," Stanley S. Stahl, University of Maryland, 1955.
51. "Some Characteristics of Highly Competent Readers Among College Freshmen," Lawrence M. Kadson, Stanford University, 1955.
52. "A Proposed Program in the Improvement of Reading at Pace College," John M. Waldman, Teachers College, Columbia University, 1955.
53. "The Effects of Reading Classes on Entering College Freshmen," Peter E. Zook, State College of Washington, 1956.
54. "An Experimental Study of the Influence of a College Reading Program on Academic Performance," Arthur Smith McDonald, Cornell University, 1956.
55. "Evaluation of a College Reading Program, University of Utah, 1952-53," Mabes L. Noall, University of Southern California, 1957.
56. "Personality Changes Concomitant with College Reading Improvement," Alton Lamon Raygor, University of Michigan, 1957.
57. "Prediction and Analysis of Attrition in Classes of a University Reading Service," Roger Leroy Wood, University of Michigan, 1957.
58. "A Study of College and University Reading Clinics Serving Elementary and Secondary School Pupils," Olin L. Adams Jr., Maryland, 1958.
59. "A Group Test for Ascertaining Ability in Phonic Analysis Among College Freshmen," Alice Buchanan Cottrell, Stanford University, 1958.
60. "A History of the Origin and Development of Instruction in Reading Improvement at the College Level," Paul Dellinger Leedy, New York University, 1958.
61. "An Experimental Study of the Effectiveness of Certain Methods of Teaching Reading Improvement at the College Level," Paul Irvine, Jr., University of North Carolina, 1959.

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Dropout Rate and Academic Progress of Two Groups of Students Enrolled at the University of Wichita

A number of studies have been published which tend to show marked benefits accruing to students who have availed themselves of reading improvement training at the university level. Very few studies, however, have been carried out using adequate control groups. This is understandable since there are so many variables involved. Ideally a "twin" for each member enrolled in the reading course should be located and *his* progress toward a degree charted and compared with that of each of those who had received training in improvement of reading techniques. Even with such an experimental design the question of the part played by motivation would be difficult to assess.

No attempt will be made to review published data in this report of the progress of seventy-one students in six sections of Psychology 60 and twenty-four honors section students enrolled at the University of Wichita except to summarize the results of a study made at Cornell University.[1] In the Cornell study an attempt was made to take into consideration the aspect of motivation.

The study at Cornell consisted of an investigation of the difference in academic performance covering a three-semester period of 116 freshmen enrolled in improvement of reading courses, with that of another group of 142 students. These students were matched in terms of sex, division of the university, and age. The latter group had been unable to get into reading training courses because of limited facilities. Both groups were below-average in academic ability as measured by Cornell standards. The experimental group was found significantly to surpass students in the control group with regard to cumulative grade-point average for all three semesters of the study. The group that had received reading training also made significantly more grade point averages above seventy than did the group not receiving training. Proportion of dropouts from the university was also significantly less for the experimental group when compared with the control group than with the remainder of the freshman class for the three-semester period.

In the report that follows it is proposed not only to follow the progress of seventy-one students enrolled in improvement of reading courses during the spring semester of 1958 but also that of twenty-four honors section students who were so designated at the beginning of the same period. Obviously the two groups are not matched in any sense of the word. The latter group has been assumed to be well motivated toward the goal of earning a university degree, however, and will be compared with the first group where average grade points and rate of dropouts are concerned. Hours and grade points for each student were secured for what is designated the "previous" or fall semester of 1957, the "current" or spring semester of 1958, and the "following" or fall semester of 1958. Because some of the students who were in the reading laboratory entered the university only at the beginning of the current semester and also because some students dropped out from both groups at the end of this semester, grade point averages are based on the records of forty-seven students from the original group of seventy-one enrolled in reading

improvement courses and eighteen of the honors group. Three honors section students who also were enrolled in improvement of reading courses have not been included in either group. (They are presently enrolled in the university.) With regard to dropouts the original totals of seventy-one and twenty-four are used. The registrar's records were checked to find out if all ninety-two were still enrolled during the fall semester, 1959, or if those who had dropped out had had transcripts made which might indicate they had transferred and are possibly continuing their education elsewhere.

The following table summarizes the information obtained with regard to dropouts:

	Reading Improvement Group	Honors Section Group
No. not enrolled Fall, 1959	*24	7
No. suspended	10	1
No. on probation, Spring, 1959	6	2
No. transcripts made for dropouts	9	1
No. graduated	5	0

* Does not include 5 who have graduated.

It will be noted when considering the above table that forty-seven of the original seventy-one in the experimental group are still enrolled or have graduated and that seventeen of the honors section are in attendance. A check of the addresses to which transcripts were forwarded showed that six were forwarded to schools, three were sent to students directly, and one was sent to a local industry. Taking this information into consideration, 75 percent of the honors section are progressing toward a degree and from 71 to 77 percent (depending on the disposition of transcripts sent directly to students) of the reading improvement group may be making similar progress.

According to a report issued by the U. S. Department of Health, Education and Welfare,[2] involving a sampling of 13,700 men and women from different types of institutions of higher learning, about four out of ten freshmen will fail to earn a degree. This survey showed that slightly less than 40 percent will remain to graduate from the institution in which they enrolled as freshmen and that "an additional 20 percent will return to graduate later from the first institution or will go to other institutions where they will graduate in 4 years or more." Since dropouts are found to occur more frequently during the freshman year, it would appear that both reading improvement and honors section groups under consideration are on the way to establishing a better record than this national survey indicates. It would also seem that both groups are equivalent in terms of motivation, as shown by persistence in working toward a degree.

It should be pointed out that of the original group enrolled in improvement of reading classes forty-three of the seventy-one were freshmen. Of this number, as of the fall of 1959, 23 or 53 percent, are still in attendance at the University and the 7 of the 19 who dropped out

may be attending other institutions as indicated by applications for transcripts. Also one student earned a diploma as a two-year Associate in Applied Science at the end of the spring semester of 1959. A total of 31 would amount to 72 percent of the group of 43.

Of the nineteen freshmen who dropped out ten were suspended. Examination of pertinent data shows that there were eight of this group of ten who worked at outside jobs twenty-five or more hours a week. All but four of the ten were below the 20th percentile on the Cooperative reading test and also scored below the 20th percentile on the L score of the A.C.E. By contrast only four of the remainder of the group of seventy-one were below the same points on these entrance tests and only two of these are enrolled at the present time.

From Table II it will be noted that the reading classes showed some improvement in grade points when the previous, current, and following semesters are compared both with regard to the means and medians. As shown in Table III, the gain between the previous semester and the current semester was statistically significant.

When the means of the honors section for the three semesters are examined a decrease in grade points is found. These decreases were statistically significant both when the current semester is compared with the following semester and when the previous semester is compared with the following semester. Such differences for this group appear not to be so great when the medians are considered.

Summary of Grade Point Means and Medians

Period	N	Reading Improvement Classes		N	Honors Section	
		Mean	Median		Mean	Median
Previous Semester	47	2.270	2.250	18	3.117	3.236
Current Semester	47	2.421	2.313	18	2.998	3.182
Following	47	2.344	2.438	18	2.631	3.227

Table III

Statistical Differences Between Grade Point Means

	Reading Improvement Classes		Honors Section	
	Current Semester	Following Semester	Current Semester	Following Semester
Previous Semester				
Sd diff	.48	.63	.58	.88
Se diff	.0691	.0913	.1415	.2146
t	*2.185	.7991	.841	*2.265
Following Semester				
Sd diff	.67		.63	
Se diff	.0971		.1536	
t	.793		*2.389	

* Significant at the 5 percent level of confidence.

Before drawing any conclusions from the foregoing study, it should be pointed out that the honors section students were so designated because of their excellent high school records together with their high entrance test scores. Special sections of several courses were set up for them in which they could work at their own high levels of ability. The assumption was made that both the honors students and those enrolled in the reading laboratory, who received no credit and who paid for the course at the same rate as a two-hour credit course, were highly motivated to obtain a college education. The results would seem to justify this conclusion since the rate of dropouts for both groups is considerably less than the national average.

With regard to change in grade point means and medians for succeeding semesters, the reading laboratory group showed definite improvement. However, it is difficult to explain the apparent decrease of the mean grade point of the honors section. One surmise is that these students were "riding on their laurels," but it might also be true that much higher standards of attainment were set for them than for those enrolled in regular sections of college courses.

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References

[1] Arthur S. McDonald, *A College Reading Program and Academic Performance,* the Sixth Yearbook of the Southwest Reading Conference for Colleges and Universities, 1957.

[2] U. S. Department of Health, Education and Welfare, *Retention and Withdrawals of College Students* (1957), p. 100.

The Arlington High School Reading Improvement Program

The reading improvement program at Arlington High School, begun in 1950, has the following facets: (1) a freshman, a sophomore, and a junior remedial English course, all of which emphasize reading; (2) an all-school, non-credit, developmental reading program; (3) two four-week summer session reading classes for sophomores, juniors, and seniors; and (4) ten-week evening classes for adults who wish to improve their reading efficiency.

All phases of the developmental reading improvement program are carried on in the reading laboratory which consists of a specially designed, well equipped suite of three rooms: a large class laboratory room and two small conference-practice rooms, separated by glass panels from the main room. In the large classroom in addition to regular study desks there are twenty individual work booths, each equipped with a reading accelerator. With this arrangement some students can work with study-type materials at a desk in the central part of the main room while others use the accelerators located along the side of this room. In addition, a small group of individuals can view a reading film in one of the small rooms while a few other students work with the tape recorder or take tests in the second small room. Working with the tape recorder

involves taking notes from the information on the tape concerning various areas for improvement in the development of study skills. Some of the study skills involve taking notes, general problems concerning reading, scheduling one's time, studying assignments efficiently, factors concerning concentration, weekly reviewing, studying for and taking exams (both essay and objective types), and general areas concerning maturity in relation to responsibilities while in high school and while attending a college. When the teacher is in any one of the small rooms with students, he can observe what is going on in all of the other areas.

With reference to the program of remedial English at the different levels, the students are grouped into the following categories: remedial, slow, average, fast, and accelerated. These groups are set up through standardized tests given in the eighth grade by the testing department of the high school. The scores of the results are checked by the reading director and the head of the English department. These two people then attempt to set up the classes in relation to teacher recommendation made by the student's eighth-grade teacher along with the scores from the reading-vocabulary section and the reading comprehension section from the standardized tests. The students are not placed in these classes with the idea that they must remain there. When the school term begins, the classroom teachers are cognizant of each individual's work, and during the first four weeks of the school term, changes are made either up or down the ability-grouping levels so as to place the student in the section most appropriate to his working level. Students are moved up and down in relation to the work that they do and the evaluation by the individual teacher.

As mentioned earlier, test scores play an important role in the selection of students for the remedial English classes. As the result of testing which is done in the eighth grade, tentative assignments are made to various levels, not only of English but also history, mathematics, and science classes. Concerning the general breakdown of classification, the incoming freshmen who scored below 6.3 grade level are placed in remedial English and continue in this grouping during their sophomore and junior years unless they demonstrate sufficient improvement to merit advancing to the next higher level. The grouping arrangement is flexible enough so that teachers may recommend moves at any point in the year providing the move is made during an appropriate grading period.

At the beginning of the remedial course the reading director administers whatever tests he feels are needed in planning specific programs for individual students in addition to the work that the students as a group will be doing. Among some of the tests which are frequently used are the (1) Nelson-Denny Reading Test, (2) Diagnostic Reading Test, (3) Iowa Every-Pupil Reading Test, (4) Gray Oral Reading Test, (5) Gilmore Oral Reading Test, (6) California Reading Test, and (7) Wide Range Achievement Test.

After the initial period of diagnosis in remedial English 1, 2, or 3, a program is launched which emphasizes reading improvement but includes as much regular English content as time will permit. Generally, the thematic approach is utilized because the textbook used in the remedial courses follows a thematic approach which is considered quite beneficial

in helping to solve or to acquaint students with problems other than those pertaining to academic work. Individual and group programs frequently include the following materials and procedures: (1) *A World of Words,* published by Winston; (2) *Word Attack,* Harcourt, Brace; (3) *Teenage Tales,* D. C. Heath; (4) a very extensive collection of paperbound, graded books of high interest such as the *American Adventure Series* by Wheeler, *Landmark Books* by Hale, *Classics for Enjoyment* by Laidlaw; (5) *Secondary Reading Laboratory* by Science Research Associates; (6) practice with the tachistoscope to increase eye span, using vowels, consonants, blends, digits and phrases; and (7) practice with the controlled reader films at the junior high school level presented generally from 125 to 175 words per minute. Tests repeated near the end of instruction in these remedial sections disclose an average class gain of 1½ to 2 years on each of the three high school levels.

The all-school developmental laboratory periods represent the second major phase of the Arlington High School Reading Improvement Program. While some help is given to students on the freshman, sophomore, and junior levels in this school from which a high percentage of students go to college, first consideration is given to seniors. The reading director has English teachers read an announcement to their students which sets forth the following points related to the services at the reading laboratory:

1. Everyone can improve his reading ability with proper practice.
2. Many students have already greatly improved their ability to cope with school studies.
3. Laboratory instruction is designed to help students become better readers of all kinds of materials.
4. Laboratory instruction is strictly individual, and frequency of attendance is geared to the individual student's schedule.
5. Students usually attend for at least twenty lessons, but length of participation is based on the student's progress.
6. Early participation enables students to apply their improved reading skills to all their high school studies.

A form is then given to those students who indicate an interest in the laboratory work. This form asks for information pertaining to the student's name, year in school, whether he is or isn't going to college, the period and number of days the student has study hall, and the room number of the study hall.

In relation to the number of seniors in the school, generally over half will register for the reading course. Some students cannot participate because they do not have a study period at the time when the laboratory is in operation. Nevertheless, since only one reading instructor is available for part of the day, many more students from just the senior class register for this work than the program can actually accommodate. Currently the reading director is conducting six clinic periods weekly, each enrolling fifteen to seventeen students. Three meet on a Monday-Wednesday-Friday—and three on a Tuesday-Thursday sequence. Also, the reading director is able to provide some instruction on an after-school basis. In addition to the laboratory periods the reading director teaches two remedial English classes.

Upon entering the reading laboratory, all students are given a short workshop designed to improve their general study, note-taking, and test-taking ability. This work begins with an eighty-five-minute tape-recorded lecture prepared by the reading director. In one of the small work-rooms, students listen to this lecture over earphones and take detailed notes which the instructor checks. At the completion of this listening and note-taking period, the reading director gives an essay examination based on the contents of the recording. On the basis of evidence gleaned from both the notes and the examination, along with the original standardized diagnostic test results, the instructor then makes detailed suggestions to each student related to improving study, note-taking, and test-taking procedures.

Before this study improvement orientation period, all students are given the diagnostic reading test published by the Committee on Diagnostic Testing. Discovered weaknesses are further checked from any one, or even all of the tests listed previously. By this means the reading director is able to construct an individual program for each student. Since all of the facilities and materials of the reading clinic are available for use in meeting the widely varied needs of the students enrolled, the reading director can simultaneously carry on programs at three distinct levels: developmental, corrective, and remedial.

Improving speed of comprehension or reading efficiency is the central goal of students in the developmental program. To qualify for this work, students must score at, or above, the 75th percentile in comprehension on the standardized reading tests given at the beginning of the laboratory program. Students who do score at this level begin work with the reading accelerators, using some of the many study-type or high interest level books available in the laboratory, or books which they bring to the laboratory. Students who show little or no improvement after a certain number of lessons with the accelerators begin work with easy reading material utilized with the Controlled Reader film series. This work is frequently done by small groups or on an individual basis in one of the practice rooms. By means of a test after each film, students maintain constant watch on their progress. The speed at which these films are read is governed by the reading director. When both their score level and confidence level rise, they then resume work with the accelerators. Most students engaged in this phase of the laboratory program set as their goal the reading level of five hundred words per minute, reading light material with very good comprehension.

Many students who score below the 75th percentile in comprehension on the standardized tests given as the first part of the program, qualify for the corrective phase of the laboratory program. Primary emphasis in this work is placed on the improvement of comprehension skills. Involved in this set of skills are such matters as getting main ideas, understanding facts, outlining main ideas and substantiating details, drawing conclusions, and vocabulary improvement. While a vast store of study-type materials is available, the following represent those frequently used by these students as they read silently and then check their record of progress: (1) *Increasing Reading Efficiency,* Henry Holt; (2) *Maintaining*

Reading Efficiency, Henry Holt; (3) *How To Become a Better Reader,* Science Research Associates; (4) *Reading for Meaning,* Lippincott.

Students on a still lower level make up those working in the remedial group. As would be expected, these students concentrate on improving such basic reading skills as techniques of word attack and analysis, as well as on improving speed and comprehension at their level. *Word Attack* by Harcourt, Brace and *The Secondary Reading Laboratory* by Science Research Associates serve as basic materials for this group. Since almost all of the students in the six reading laboratory periods are seniors, most of whom are college preparatory students, the number of students doing remedial work is much smaller than the number pursuing the corrective and developmental phases of the laboratory program.

The decision to terminate participation in the laboratory is mutually arrived at by the reading director and the individual student involved, both of whom continuously study the student's achievement graphs and charts. At the end of the program as set up by the reading director, each individual is given another set of standardized diagnostic tests to determine whether progress can be denoted in reference to utilizing two comparable forms of a standardized test. In addition to these test results the daily progress charts are discussed with the student in relation to his individual progress. After the standardized tests are taken and the results are discussed with the individual, he then writes an evaluation of the course in relation to its values to the student both now and as to the future. In light of the student's not receiving a grade for this course, much thought is put into the evaluation by him which reveals different attitudes concerning an increased enjoyment for reading, an improvement in the receiving of higher grades, a new world of enjoyment and entertainment opened to the individual for having had these contacts with reading material. These, and many other values as indicated by the students, bring about a most welcome feeling of accomplishment to anyone operating a laboratory such as has been discussed in this article.

In addition to all the phases of the Arlington reading program already described, the reading director also conducts a ten-week adult evening class in reading improvement each semester and two four-week summer session classes for high school sophomores, juniors, and seniors. As in the previously described developmental aspect of the laboratory program, to qualify for the summer work, high school students must achieve a satisfactory comprehension score on the diagnostic test, in this case no lower than the 60th percentile. Even though each of the classes enrolls twenty students, the summer program has not been able to accommodate nearly all the students who request this work.

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An Experimental Phonics Program Versus a Controlled Integral Reading Program

Phonics in the reading program has been a controversial subject for many years. The problem is still with us. Should we teach phonics and which phonics method is most effective?

In the early part of this century several of the phonic systems emphasized the blending of word elements. Children were taught the smallest word elements and then used these elements to form larger units. The experiments of Gates[1] during the 1920's provided the next approach to teaching phonics. The instruction begins with the whole word in meaningful context. Similarities in form and sound of the whole word are pointed out. Instruction in phonics is delayed until the child has acquired a slight vocabulary of about seventy words. He is then taught to notice that words begin in the same way. The child can then make generalizations that help him identify this sound at the beginning of other words.

Dolch described three methods of teaching phonics: the total-memorizing, the parallel, and the development methods. In the total-memorizing method, the child begins reading instruction by learning phonic elements. After he has mastered many phonic elements, the child reads words or sentences. In the parallel method, beginning reading is taught with basal-reading books. At the same time a phonics workbook is used. In the development method sight words are first learned and then likenesses and differences in words are noticed. The phonics instruction is then integrated into the regular reading lesson.

The experimental study reported here compared the results of two methods of teaching remedial reading in a summer reading workshop. Thirty children of the Thibodaux area took part in the study which began on June 6th, and continued until July 15th, 1960. Fifteen children made up the experimental group, which taught phonics as a special drill subject in a remedial reading program. Fifteen other children served as a control group, which was not taught phonics as a special drill but as an integral part of the whole reading program. The experimental group received phonics drill from a workbook and the whole-word approach to the teaching of phonics. The control group did not use a workbook nor did the pupils get special word sessions in the form of drills. An individualized reading program was used with both groups. The books for this were determined by the individual interests of the groups, as well as the general interests of the age level. Library books were used covering interests in animals, people, and various phases of science; these books ranged from primer to ninth-grade reading level. In addition to the library books used in each group, many other types of materials were utilized. These included an SRA Reading Laboratory, mimeographed materials for skill building, spelling workbooks, games, flash-cards, and dictionaries. The basic diagnostic materials consisted of the following items: *intelligence:* Wechsler Intelligence Scale for Children; *reading grade level:* Gates Reading Survey Forms 1 and 11; *vision:* Keystone Telebinocular for all children (the school Ortho-rater to check doubtful cases); *hearing:* Audiometer.

To match the two groups of pupils, information was obtained on their chronological age, intelligence quotient, vision and hearing. This information is presented in Table I.

Table I

Factors used in matching 15 pupils in an experimental group and 15 pupils in a control group.

Factor		Mean	
		Experimental group	Control group
Chronological age		12 years 1 month	12 years 3 months
Intelligence quotient		107.8	108.4
Reading ability	speed	4.7 grade level	4.6 grade level
	vocabulary	4.8	4.7
	comprehension	4.3	4.0
	averages	4.6	4.4

The two groups received similar results on tests of vision and hearing acuity. All the students were given Form 1 of the Gates Reading Survey as a pretest to determine their reading level and to identify special difficulties in comprehension and vocabulary.

After carefully studying the tests, the reading consultant divided the students into an experimental group and a control group. The classes met for two hours a day for six weeks. At the end of six weeks Form 11 of the Gates Reading Survey was administered to the two groups to determine how much progress was made. These results are presented in Table II.

Table II

Progress of two groups

Mean grade scores experimental group

Vocabulary		Comprehension		Speed	
Test 1	4.8	Test 1	4.3	Test 1	4.7
Test 11	5.5	Test 11	5.0	Test 11	5.6
change	+.7	change	+.7	change	+.9
Average Reading Test					
Test 1	4.6				
Test 11	5.4				
change	+.8				

Mean grade scores of the control group

Vocabulary		Comprehension		Speed	
Test 1	4.7	Test 1	4.0	Test 1	4.6
Test 11	5.3	Test 11	4.8	Test 11	5.1
change	+.6	change	+.8	change	+.5
Average Reading Test					
Test 1	4.4				
Test 11	5.1				
change	+.7				

The mean change in scores for the experimental group was +.8. The mean change in scores for the control group was +.7. This means that the average gain for the experimental group in six weeks was eight months of reading skill and for the control group, seven months of reading skill.

Thus, there was not a significant difference in the gains made by the experimental and the control groups. The control group got phonics through games and word practice and did not recognize it as a special drill. The workbook and special drill approach to phonics used on the experimental group was no more effective than the whole method used on the control group. It is the opinion of this writer that phonics taught in a vacuum as a special drill with the use of phonics workbooks can do more harm than good. Many phonics facts are better learned through experience and observation. Phonics is an important skill but it should be integrated into the whole reading program and never used as an end in itself.

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1 Arthur I. Gates, *New Methods in Primary Reading* (New York: Bureau of Publications, Teachers College, Columbia University, 1928).

2 Edward W. Dolch, "Phonics in First Grade," *Elementary English,* XXXII (December, 1955), 514-18.

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Part X

1. California State Committee on Development Reading, "Teaching Reading for the Gifted in Secondary Schools," *Bulletin of the National Association of Secondary School Principals,* XXXIX (October, 1955), 5-72.

   The "gifted child" is identified and some of his characteristics, problems, and needs are pointed out. Desirable qualities for teachers of the gifted are outlined, with special emphasis on creativity. A section on general teaching methods includes a list of characteristics recommended by the Educational Policies Commission. Methods of "guidance teaching" are described for the sciences, language and literature, social studies, and creative writing. Some successful projects are described and a selected bibliography is included.

2. George K. Cole, Jr., "Adult Reading Clinic," *Library Journal,* LXXXII (February 15, 1957), 497-500.

   Description of the free reading clinic at the Trenton, New Jersey, public library. At this writing, twelve adult clinics have been held with great success. Each program consisted of twelve two-hour weekly meetings which included diagnostic tests, informal lectures, and work with the tachistoscope and the SRA *Better Reading Book* # 3. In addition, each participant came to the library for one hour of individual consultation and practice on the Reading Accelerator each week. Although the library personnel were not specially trained in reading instruction, the clinics produced substantial gains in both rate and comprehension. And although the cost of the program was low enough to be absorbed by general library funds, most participants expressed willingness to pay fees for training of this kind.

3. Olive S. Niles and Margaret J. Early, "Adjusting to Individual Differences in English," *Journal of Education,* CXXXVIII (December, 1955), 2-68.

   Of the five chapters in this issue, two are concerned with teaching reading at the secondary level. Chapter I, *Reading Skills,* outlines broad goals for reading programs, lists provisions for individual differences in reading ability, and suggests methods for taking inventory of various reading skills. There is a section on classroom organization, which includes a test for teachers on the feasibility of establishing a program in which "the more skilled people may be freed from needless drill and less skilled may be given opportunity to improve." A selected list of tests and teaching materials concludes the chapter.

   In Chapter II, *Uses of Reading,* the authors take up some problems fundamental to building interest in extended reading. They offer practical suggestions for making pupils feel that reading is useful and for evaluating progress without resorting to formal book reports. Here too they include a test for teachers, this one designed to evaluate the teacher's own progress in promoting reading. A

brief book list, arranged in order of reading difficulty, is also included.

4. Guy Wagner, "Toward Better Reading in Our High Schools," *Education*, LXXVII (May, 1957), 555-60.

   A brief summary of the importance of improved reading programs, with a 12-point check list of "Marks of a Good Program."

5. Shirley Ullman Wedeen, "Mechanical Versus Non-Mechanical Reading Techniques for College Freshmen," *School and Society*, LXXIX (April 17, 1954), 121-23.

   An account of a controlled experiment at Brooklyn College to study the effects of the Reading Rate Controller as compared to the Speeded Book Reading Technique in a college freshman reading course. The Reading Rate Controller group produced superior gains in rate, and the two experimental groups showed equal improvement in comprehension and general reading ability.

6. Dorothy D. Yorgan, "I Can Read," *Bulletin of the National Association of Secondary School Principals*, XLII (February, 1958), 113-26.

   This article describes a successful program for teaching slow-learning pupils in separate classes at Phillip Junior High School in Minneapolis. Pupils selected for the special program were those who had histories of unsuccessful school experience and who were two or more years retarded in reading. These were placed in a block program by themselves for all subjects except gym, foods, clothing, art, and shops. Mrs. Yorgan outlines methods and materials used and summarizes the success of the program: the majority of the pupils made significant gains in reading and improved decidedly in general behavior. The pupils themselves expressed satisfaction with the course and their own progress and felt more secure about going into the next grade.

Porter Main

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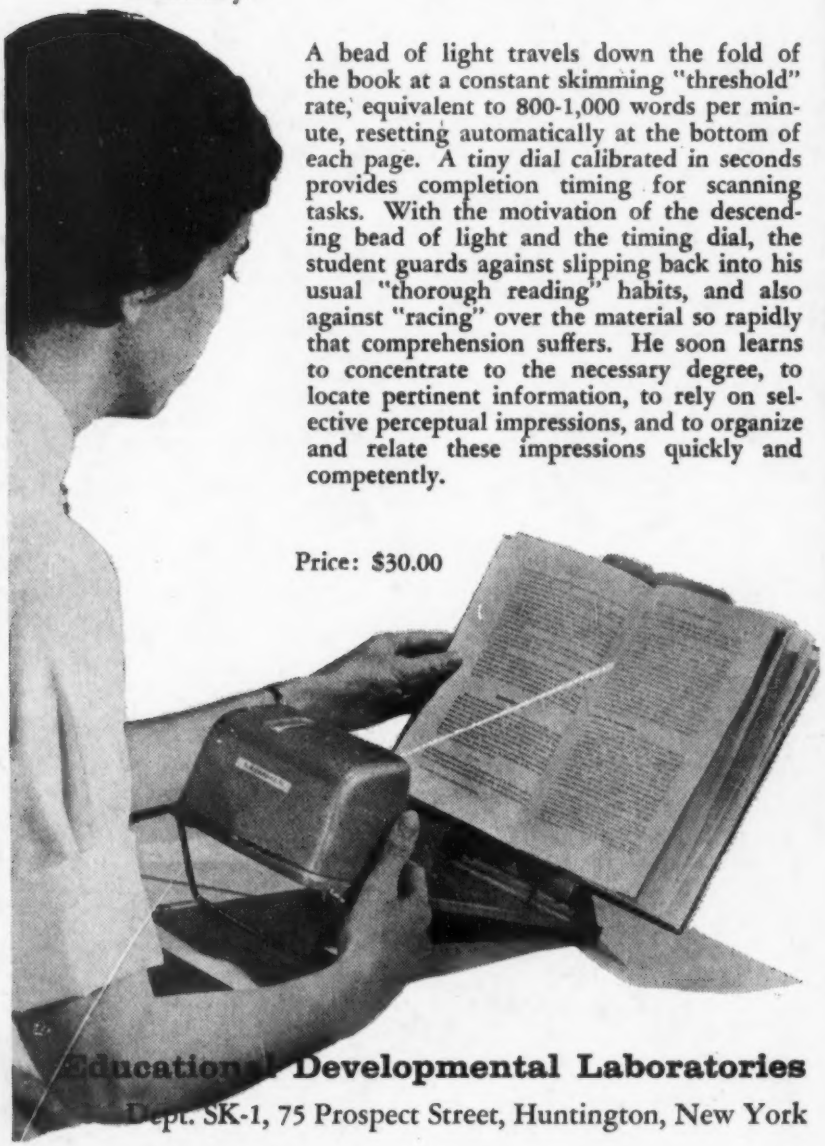

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